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WHOOPING-COUGH

A PLEA FOR MORE EFFICIENT PUBLIC REGULATIONS RELATIVE TO THE CONTROL OF THIS MOST SERIOUS AND FATAL DISEASE *

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According to the mortality statistics compiled by the United States Census Bureau in 1906, from a registration area comprising slightly less than one-half of the population of the United States, there were 6,324 deaths from whooping-cough in that area in children under 5 years of age. The United States *Public Health Reports* show that in 1910 the death rate per hundred thousand was as follows: whooping-cough, 11.4 per cent.; scarlet fever, 11.6 per cent.; measles, 12.3 per cent., and diphtheria, 21.4 per cent.

In order to get some more recent statistics, I wrote to all the state boards of health, asking for the number of deaths from whooping-cough, scarlet fever and diphtheria during the year 1911, and also for those from bronchitis and bronchopneumonia in children under 5 years of age. I also asked for information as to the state regulations regarding notification, quarantine, disinfection and school attendance in relation to whooping-cough. The reports from thirty states show that 6,251 died of whooping-cough, 4,232 from scarlet fever and 9,579 from diphtheria in these states during the year 1911. Three thousand eight hundred and sixty children under 5 years of age died of bronchitis and bronchopneumonia during the same period in eleven states in which 1,216 died of whooping-cough. It is, of course, impossible to know in how many of these cases the bronchitis and bronchopneumonia were secondary to whooping-cough. They were undoubtedly due to it, however, in a considerable proportion of them. These deaths should be added to those from whooping-cough. The relative mortality from whooping-cough, scarlet fever and diphtheria is essentially the same throughout the country, whooping-cough being almost everywhere more fatal than scarlet fever and less fatal than diphtheria. Whooping-cough is an especially serious disease in the Southern states, as is shown by the fact that in North Carolina 736 children died of whooping-cough in 1911 against a total of 447 from scarlet fever, measles and diphtheria combined. The death-rate from whooping-cough in North Carolina in 1911 was 32.2 per cent. against 11.4 per cent. for the whole United States.

I also wrote to the boards of health of a considerable number of cities scattered all over the United States, asking the same questions, and received replies from sixty-one, ranging in size from Livingston, Mont., with a population of 5,000, to New York (Manhattan and Bronx), with a population of 2,760,000. If Chicago and New York are excluded, the relative mortality from the three diseases under consideration is the same as that in the United States as a whole. When they are included, the figures are as follows: whooping-cough, 1,327; scarlet fever, 2,014; diphtheria, 3,539.

There were 6,908 deaths from bronchitis and bronchopneumonia in children under 5 years of age in forty cities in which there were 1,022 deaths from whooping-cough. Although there were many exceptions, the death-rate from whooping-cough was, on the whole, as would be expected, greater in the large cities than in the small.

It hardly seems necessary to give any more statistics to prove what a serious and fatal disease whooping-cough is and to show that, instead of being a trifling affair as it is usually considered to be by the laity, it is a condition of the utmost gravity. "Any disease which kills ten thousand children per annum is," as Rucker says, "a serious one. If bubonic plague were to kill that many children in the United States in one year, the whole world would quarantine against our country. A child dead of whooping-cough is just as dead as a child dead of plague." Certain other points in relation to the mortality are, however, of great importance.

German statistics, covering a period of eleven years, show that the mortality among those attacked with the disease is: Under one year of age, 26.8 per cent.; between 1 and 2 years, 13.8 per cent.; between 2 and 5 years, 3 per cent., and between 5 and 15 years, 1.8 per cent.

Ninety-six per cent. of the 6,324 deaths from whooping-cough in the United States in 1906 were in children under 5 years of age. Fifty-seven per cent. of the fatalities were in the first year, 23 per cent. in the second, 8 per cent. in the third, 4 per cent. in the fourth and 2.5 per cent. in the fifth year. It is a comparatively mild affection in healthy children over 5 years old, and after puberty it is rarely fatal. The importance of these figures will be evident when the measures to be taken to control the disease are considered.

What is being done in this country to limit the spread and diminish the death-rate from this dread disease? Surprisingly little. It is a notifiable disease in only twenty-nine of the forty-three states that answered my inquiry on this point. The health officers of many of these states say, moreover, that very little attention is paid by physicians to the law requiring notification. Isolation is required by law in seven states and "modified" isolation in two others. It is recommended in another, but the secretary of the board of health states that it is rarely enforced. "Some attempt is

* Address of the President, Annual Meeting of the American Pediatric Society, Washington, May 5, 1913.

made at it" in another, while in another authority is given to the counties to isolate it, but the secretary of the board of health states that few counties take advantage of this authority. The disease is placarded in six states, perhaps in more. Thirty-one states do not require isolation.

Disinfection after the disease is required by law in four states and "recommended but rarely enforced" in one. "Some attempt is made at it" in another, and in another authority is given to the counties to disinfect, of which authority they do not take advantage. "Modified" disinfection is required in two states. No disinfection is required in thirty-four. The impression obtained from the letters is, however, that both isolation and disinfection are chiefly on paper and that they amount to little or nothing practically.

Two states, at least, have no law forbidding the attendance of children ill with whooping-cough at school. The others forbid attendance at school, but only three of the states from which I received answers have any regulations as to how long they shall be kept out of school. The other children in the family are not allowed to attend school in seven states. They are allowed to attend school in eleven, whether they have had the disease or not; in six, if they have had it, and in two, if the patient is isolated. There is no state regulation as to the attendance of the other children in the family in nine states. I was unable to get definite answers from the others.

The regulations of the cities, both large and small, average better than those of the states. Notification is required in forty-four of the sixty-one cities from which I received replies, but isolation is demanded in but twenty. Judging from the letters, however, the isolation is in many cases very imperfect. Some other cities placard, but do not isolate. Disinfection is required in but five, while it is "advised" in two others.

Strange as it may seem, children with the disease are allowed to go to school in three of the sixty-one cities, two of these cities being in Ohio and one in Mississippi. The other children in the family are allowed to attend school in twenty-seven. They are not allowed to attend school, unless they have had the disease, in ten; unless they have had the disease and live away from home, in two; or until after three weeks from the last exposure, in two. In the others they are not allowed to attend school under any conditions.

There is almost no provision for the hospital treatment of whooping-cough in this country. In New York there is a special ward for children with whooping-cough at Bellevue, but only those having complications are admitted. There are also two isolation cottages, each containing fifteen beds, for whooping-cough at Randall's Island. Six hundred and eight cases were treated there from 1903 to 1912 inclusive, with nineteen deaths, all of them from complications. These wards are not open, but in fair weather the children are kept out of doors as much as possible. There are no special hospitals or hospital wards for the treatment of whooping-cough in Chicago, although cases with complications are sometimes admitted to the contagious department of the Cook County Hospital and there isolated. The Philadelphia General Hospital has a separate section for children with whooping-cough. Boston has no provision for these cases. They are admitted to the isolation hospital in San Francisco, but only the most serious, complicated cases are taken and there is no special whooping-cough pavilion. There is a ward of eight beds devoted entirely to whooping-cough at the Charity Hospital in New Orleans. One pavilion in the new Cincinnati General Hospital is to be arranged exclusively for whooping-cough and at the Johns Hopkins Hospital cases are to be admitted and treated in small isolating rooms. Several of the hospitals in the smaller cities occasionally admit cases of whooping-cough with severe complications to their contagious hospitals and treat them in separate rooms. Most of the general hospitals throughout the country refuse whooping-cough entirely, although some of them at times take severe, complicated cases and treat them in separate rooms. If children with the disease are admitted by mistake, they are sent home, unless so ill that this is not possible, when they are isolated in separate rooms. These, as far as I can find out, are the only provisions made in the United States for the treatment of this disease, which at one time or another affects almost every member of the community and which causes 10,000 or more deaths yearly!

There is no general rule as to the management of children with whooping-cough in outpatient and dispensary clinics. In most clinics the children at their first visit mix freely with the other children in the waiting-room until they are discovered by the physician. In a few, the children are seen by a physician before they go to the waiting-room and many of the cases are then discovered. In the majority of the clinics the children are not allowed to return for treatment, but are referred to district or dispensary physicians. In others they are allowed to return and are "treated on the sidewalk" at the beginning or end of the clinic, or are admitted to separate rooms where they are at once treated and sent home. Judging from what I have seen of outpatient clinics in my own and other cities, the isolation obtained in this way must be very incomplete and very unsatisfactory. In some clinics no attempt whatever is made to separate these patients from the other children in the waiting-room and they are allowed to return as often as they wish. It is hard to imagine any better method for disseminating the disease. In two or three clinics, however, they are treated at an entirely different hour from the other patients.

The precautions taken in other countries to prevent the spread of this disease are but little, if at all, better than those in this country. It is not a notifiable disease in England or Scotland and there is no quarantine or disinfection after it in either country. Children with the disease are not allowed to attend school, the time limit in England being six weeks. The other children are not allowed to attend school, unless they have had the disease and do not attend the lower grades or after a quarantine of twenty-one days. Children with whooping-cough are admitted to the "fever hospitals." Five hundred and seventy cases were treated in the Metropolitan Asylums Board hospitals in 1911, the first year in which this disease was admitted, with a mortality of 12.1 per cent. There is a special ward of eight beds for whooping-cough at the Great Ormond Street Hospital and a special suite of rooms for it at St. Bartholomew's. There is a special clinic for whooping-cough in special rooms, twice a week, at a special time of day, at the Great Ormond Street Hospital, and a special clinic in the afternoon at the Victoria Hospital for Children.

Whooping-cough is a notifiable disease in Austria, but there is practically no quarantine or disinfection. Neither the patients nor other children in the family are allowed to attend school. It is admitted to special wards in some hospitals and to the infectious hospitals, and is treated in special rooms in the outpatient depart-

ments. It is not a notifiable disease in Bavaria and there is no quarantine or disinfection after it. The patient is not allowed to attend school. There are no special hospitals and the precautions taken in the outpatient departments are rudimentary. Czerny in Strasburg treats children with whooping-cough in the open wards. It is a notifiable disease in Graz, but there is no quarantine and no disinfection after it. That is, the customs are as varied as they are in this country.

Notification of whooping-cough is voluntary in France. Isolation and disinfection depend on notification. The children are not allowed to return to school until thirty days after the disappearance of the paroxysms. The regulations as to the other children depend on the locality. Children with whooping-cough are admitted to the hospitals and treated in special rooms or in small wards in isolation pavilions. The precautions taken in the outpatient departments are very rudimentary. It is evident, therefore, that the neglect to take proper precautions to prevent the spread of this disease and to provide hospital accommodations for its care is not confined to this country, but is well-nigh universal.

It is self-evident that more should be done to limit the spread of whooping-cough than is now being done and that more strenuous efforts should be made to diminish the terrible mortality from this disease than are now being made. In order to take intelligent measures to limit its spread, it is necessary, however, to know first the nature of the contagion and when and how it is transmitted.

The recent investigations of Mallory have proved conclusively that the Bordet-Gengou bacillus is the cause of whooping-cough and that the organism is present between the cilia of the epithelium lining the trachea and bronchi. This organism is present in the sputum in the catarrhal stage and is most abundant at this time and in the first two or three weeks of the spasmodic stage. It has been found in the sputum as late as the eighth week of the spasmodic stage. It is fair to assume, therefore, that the disease is transmitted by the secretions of the respiratory tract and that, while most contagious during the catarrhal and early weeks of the spasmodic stage, it is also contagious throughout the whole of the spasmodic stage. Kittens, puppies and monkeys may be infected with the disease. This probably happens so seldom under ordinary conditions, however, that infection from animals can, for practical purposes, be disregarded. The Bordet-Gengou bacillus is very easily destroyed outside of the body. Indirect contagion is, therefore, very unusual and of but little importance. The staining of smears of the sputum by proper methods gives reasonably satisfactory results. The isolation and recognition of the organism by cultures is, however, too complicated a procedure for practical everyday use. An agglutination reaction is present in many cases, but is not constant and is usually not very high. Its presence is proof of whooping-cough; its absence does not count much against it. A complement-fixation reaction is present in a considerable proportion of children with whooping-cough and convalescent from it. The frequency of the reaction increases with the duration of the disease. Both of these tests are, however, too difficult of performance to be of practical utility for everyday use. The complement-fixation reaction should be of great service in the recognition of abortive and atypical cases in exceptional circumstances, when such recognition is of great importance.

There is an increase in the total number of white corpuscles with an absolute and relative increase in the number of lymphocytes in the catarrhal stage of whooping-cough. The leukocytosis and lymphocytosis increase with the severity of the disease, reaching their highest point in the paroxysmal stage. There is either no leukocytosis or a leukocytosis with a relative increase in the polynuclear neutrophils in the diseases with which whooping-cough may be confused. This blood-formula is a fairly constant one in whooping-cough and is therefore of considerable assistance in its diagnosis before the appearance of the characteristic whoop. It is, however, not always present and may be absent, if there is some complication which is accompanied by a polynuclear leukocytosis. Due allowance must also be made in infants and young children for the normally high percentage of lymphocytes at this age. While the examination of the blood and sputum will unquestionably be of assistance in limiting the spread of whooping-cough by rendering it possible to recognize it in its early stages and thus to isolate children with it earlier than would otherwise be done, it does not solve the problem, because until the health authorities, physicians and public appreciate the importance and gravity of the disease, such examinations will not be made often enough to make any appreciable difference. In the future, when these facts are recognized, they will undoubtedly be of great assistance.

In the immediate future and probably for many years to come, it is reasonable to suppose that, because of the indefiniteness of the early symptoms and the frequency of mild types of the disease, almost everyone will sooner or later have whooping-cough. This fact, while unfortunate and presumably eventually remediable, is not so serious as it at first sight appears, when it is remembered that about 95 per cent. of the deaths from whooping-cough occur during the first five years and the great majority of these in the first two years. The most important thing, then, is to keep babies and young children from having the disease.

The first step to be taken is to convince physicians and the public in general of the seriousness of whooping-cough in infants and young children and of the importance of protecting them from it. All regulations, no matter how well planned, will be useless until those interested in enforcement are so convinced. They can be convinced only by a campaign of education. This campaign will have to be led by the pediatrists and the United States public health authorities, since they are the only ones who at present seem to appreciate the importance of the subject. When the public and physicians are properly educated, regulation will be relatively simple.

Whooping-cough must be made everywhere a reportable disease and the same penalties imposed for failure to report it as in the case of small-pox, scarlet fever and diphtheria. The house should be placarded and the inmates instructed by the health authorities as to the seriousness of the disease in infancy and the methods to be employed to prevent contagion. The sputum and vomitus should be treated in the same way as in tuberculosis.

The patients should be separated from the other children in the family, if they are under 5 years of age. If such separation is impossible, the patients should be removed by the health authorities to special hospitals provided for the purpose. These hospitals should be constructed on the "shack" plan in order to give the children the maximum amount of fresh air and thus to

prevent the development of complications and cross-infection, and so situated that the children can be up and out of doors in suitable weather. There is no reason why children should be isolated in one room and not allowed to go out of doors, provided they are kept away from other children. They ought not to be allowed on the street, but, in order to protect other children in case they do get on the street, they should be required to wear an arm-band of some prescribed color and labeled "whooping-cough" in large letters. They should not be allowed under any circumstances to visit places of public congregation or to travel in public conveyances. Children who fail to observe the quarantine regulations should at once be sent to the hospital by the public authorities, no matter what their circumstances or social position. They should not be released from quarantine until after the cessation of the paroxysmal cough or until at least six weeks have elapsed since the onset, even if the paroxysmal cough has ceased. It is to be hoped that in the future quarantine will be maintained until after the cessation of the paroxysmal cough and the disappearance of the Bordet-Gengou bacillus from the sputum.

The vitality of the Bordet-Gengou bacillus outside of the body being slight, formal disinfection is not necessary. Thorough cleaning and airing of the premises is all that is required.

The other children in the family should not be allowed to attend school unless they have already had the disease or until two weeks have elapsed since the last exposure, provided they are free from catarrhal symptoms. It is possible that this period of two weeks may be too short, the evidence as to the length of the incubation period of whooping-cough being unsatisfactory. Present observations seem to show, however, that it varies between two and ten days. Two weeks should, therefore, be amply sufficient.

Children with catarrhal symptoms, in whom there is any reason to suspect the possibility of whooping-cough, should be excluded from school. It is probable that in the future the examination of the sputum will be used as a test in the same way that the bacteriologic examination of the throat is now used when diphtheria is suspected.

The community should be required to establish hospitals not only to take care of those children that cannot be or are not properly isolated at home, but also to take care of those babies and children ill with the disease that cannot be properly treated in their homes.

It can be confidently predicted that when the physicians and the public understand what whooping-cough really means, when proper regulations for its control are established and enforced and when sufficient hospital accommodations for its care are provided, whooping-cough will cease to be the scourge which it now is.

70 Bay State Road.

The Value of Mouth Inspection in the Treatment of Patients.—Of what avail is it to bombard the stomach with drugs and to diet patients, when the real cause of the symptoms lies in a foul mouth, missing teeth, and filthy bridges and plates? Why prescribe sedative cough-mixtures when a long uvula is the cause of an obstinate cough? Why fill a child with tonics when adenoids and enlarged tonsils are the cause of anemia? The tonsils are the cause of so much constitutional mischief that they should always be examined as a routine process. Especially important is this examination in all cases of articular rheumatism, chronic or even acute nephritis and all cases of sepsis.—Morris Manges in *New York Med. Jour.*

BASIC FUCHSIN IN CHRONIC LEG ULCER*

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DR. MAY'S REPORT

In a former paper[1] I called attention to the germicidal action of basic fuchsin (Grübler's Fuchsin für Bakterien). In this paper we wish to publish the results obtained in cases of chronic leg ulcer treated with fuchsin ointment. A brief summary, however, of the experimental work will be given before proceeding to the clinical report.

Technic.—With distilled water, carefully weighed quantities of Grübler's Fuchsin für Bakterien were made up in dilutions of 1.0, 0.75, 0.5, 0.25, 0.1, 0.075, 0.05, 0.025, 0.01 and 0.001 per cent. Five c.c. of each of these solutions was run into sterile test-tubes, sterilized in flowing steam in the Arnold sterilizer for fifteen minutes on three successive days and kept in a dark place. The activity of these stock solutions was then tested with the following organisms: *Bacillus typhosus, B. paratyphosus, B. coli communis, B. tuberculosis* (saprophytic strain); staphylococci, *Oidia albicantia* (human throat) and oidia from a case of generalized blastomycosis. Solutions of fuchsin, 1:1,000, were found always to be *germicidal*, five minutes being required to kill the microorganisms. Higher dilutions, 1:10,000 to 1:100,000, are only variably active.

Experiments were then made to test the *toxicity* of the dye. With warm 1 per cent. solutions repeated irrigations were made of the urinary bladders of rabbits. Repeated and careful examination of the urine and of microscopic sections of the bladders revealed no irritation or inflammatory changes. Basic fuchsin solutions (1.0 per cent.) were injected into the lumbar subdural spaces of dogs with no toxic effects. These experiments also demonstrated the fact that the dye has great *diffusibility*. Another important fact was also noted, namely, that *the dye does not coagulate albumin*.

The germicidal action, non-toxicity and diffusibility of the dye having been proved, I decided to use it as a general antiseptic and for surgical dressings. Wounds were dressed with gauze soaked in fuchsin solutions (1:1,000) either alone or combined with an ointment

* A report from the Laboratories and Hospital of the University of Cincinnati, in which Dr. E. S. May was formerly clinical instructor and demonstrator in surgery.

1. In a previous paper, "The Germicidal Action of Basic Fuchsin" (THE JOURNAL A. M. A., April 29, 1912, p. 1174), Dr. E. S. May reported that while he had found "acid" fuchsin devoid of germicidal action "basic" fuchsin had proved strongly germicidal. In regard to the chemical identity of the "basic" fuchsin Dr. May stated that "it is the acetate which is furnished us as basic fuchsin and the hydrochlorid and sulphate as acid, or ordinary fuchsin." As he had no knowledge of the identity of the dye used (Gruebler's Fuchsin für Bacillen), and as this identity appeared of first importance, since others might wish to repeat his experiments, THE JOURNAL decided to investigate the matter. Inquiry addressed through the American agent, Eimer and Amend, to G. Gruebler & Co., brought the information that "Basic Fuchsin is a mixture of rosanilin and pararosanilin hydrochlorid with the formula of $C_{20}H_{20}N_3Cl(O)$." Two specimens of Gruebler's Fuchsin für Bacillen, one sent by Dr. May and the other purchased from Eimer and Amend, as well as a specimen of "Fuchsine Merck Medicinal," which appears to be identical with the Gruebler product, have been examined in the Association Laboratory. All three dyes are in the form of hydrochlorid. Those who wish to repeat the work here reported should bear in mind that the work was done with fuchsin hydrochlorid instead of acetate. The hydrochlorid may be obtained in the form of "Gruebler's Fuchsin f. Bac." and "Fuchsine Merck Medicinal."—Ed.

1. May, E. S.: Germicidal Action of Basic Fuchsin, THE JOURNAL A. M. A., April 29, 1912, p. 1174.

made up of fuchsin (1 per cent.). Marked stimulative action was noted. Under the treatment chronic ulcerative processes cleared up with *marked stimulation of the epithelium of the margins* and of the granulation tissues.

From the results of my investigations I concluded that basic fuchsin is not only a non-toxic, very diffusible germicide, but also that it has strong stimulative action on epithelial and granulation tissues.

This combination of properties in the dye suggested that because of the chronicity in leg ulcer, the dye might be of value in treatment of such cases. Accordingly it was tried out on cases of this class on Dr. Heidingsfeld's service in the wards of the Cincinnati Hospital. This series of cases forms the basis of this preliminary report.

REPORT OF DR. HEIDINGSFELD

The investigations on the basic fuchsin described above have led me to investigate the clinical value of this drug in cases of chronic leg ulcer in the dermatologic wards of the Cincinnati Hospital. This institution, drawing from a population of about 500,000 people, freely accepts lying-in, skin and venereal cases and the cases on this service are especially well adapted to investigations of this nature.

About one-third of the patients are affected with chronic leg ulcer of every variety. Their length of residence in the hospital is usually from two to eight to ten years. Usually the ulcers have been present for a longer period of time, few being of less than ten years' standing, many of more than twenty-five years. Hospital residence, however, is not continuous; the patients often improve, leave the hospital for brief periods and resume some of their former duties. As a rule, improvement is merely relative and of a moderate degree and the patients are subsequently readmitted. They come to the hospital after all other curative measures have proved unavailing, the cures resisting the combined efforts of family and dispensary physicians, treatment with patent and proprietary remedies and surgical operations.

Etiology.—The etiology of chronic leg ulcer is almost as varied as the clinical manifestations. Varicose veins or impaired general circulation are the most important predisposing factors, with syphilis, thrombophlebitis and trauma strongly in the background in the majority of cases.

TREATMENT

Under appropriate constitutional and local measures a certain number of cases promptly proceed to cure. Cases of this kind, however, are relatively few in number. From the standpoint of the practitioner, leg ulcers are the most obdurate, refractory and uninteresting class of cases which he is called on to treat.

Gottheil[2] calls attention to an interesting clinical feature of chronic leg ulcer, namely, the very slight tendency on the part of these lesions to cancerous degeneration. It seems remarkable that relatively few leg ulcers show cancerous degeneration, no matter how old the host, how long-standing the process, or how neglected or misdirected the treatment. This seems all the more remarkable because a much slighter degree of such unfavorable influence on a more favorably predisposed region, such as the face, would be followed, almost invariably, by malignant degeneration.

Of the simple inflammations which are uncomplicated with malignancy or the severe infections such as tuberculosis, leprosy, etc., chronic ulcerations of the leg are the most hopeless from the standpoint of therapy. Unless the ulcer is caused by well-defined and easily controlled causes such as syphilis and traumatism, the progress of these cases to recovery is slow and tedious, and the recovery inconstant and unstable.

Like all affections which possess no thoroughly reliable and satisfactory therapy, the literature and text-books recommend a host of measures and therapeutic agents. Most of these are helpful in a certain percentage of cases, but useless in many others. It is needless for me to enter into a detailed description of the many methods which have been described and recommended for the treatment of these cases. It will suffice to state that in the majority of cases considered in this report all forms of applications, mechanical devices and even surgical intervention have been employed with little and only transient improvement. Therefore, any new measure which gave promise of benefiting these cases has been faithfully given a trial. In nearly all of my cases all sorts of ointments have been used, including scarlet-red, pastes, various antiseptic and stimulating powders, lotions, moist compresses, zinc gelatins, elastic bandages, elastic stockings, continuous baths, elevation of the legs, mechanical devices for relieving passive congestion, curettement of ulcers and skin-grafting. In nearly all cases and with nearly all of the remedies temporary improvement was noted. With scarlet-red, temporary improvement was noted in nearly all cases, but the severe inflammatory reactions and dermatitis which followed its applications precluded its further use.

RESULTS OF TREATMENT IN CLINICAL CASES

On March 1, 1912, twenty selected cases of chronic, persistent ulceration of the leg were treated with basic fuchsin in form of an ointment, after the following formula:

Fuchsin (Grübler's Fuchsin für Bakt.)	5 parts
Eucalyptus oil	10 parts
Anhydrous wool fat	100 parts

The ointment was applied daily on a piece of lint and was universally well tolerated. The ulcerations cleaned rapidly, and pus and all evidences of secondary inflammation disappeared promptly with relief of pain. On April 18 ten of the cases were exhibited to the Hospital Clinical Society,[3] where the remarkably clean, healthy appearance of the ulcerations, their change from a deep to a superficial character, and their apparently rapid progress toward recovery elicited favorable comment from the members present. In a few cases, continued use of the remedy over a period of several or more weeks, was followed by a mild, inflammatory reaction and dermatitis, so that it became necessary to discontinue the remedy for a few days and to modify its strength to the following formula:

Fuchsin (Grübler's Fuchsin für Bakt.)	1 part
Petrolatum	5 parts
Anhydrous wool fat	100 parts

This formula has been well tolerated in all cases.

My term of service terminated on June 1, 1912, before I had the opportunity to follow all the cases to complete recovery; in the interim, however, some of the patients were discharged well, and others left of their own volition after marked improvement, but before complete recovery. The remainder were all greatly improved and

2. Gottheil, W. S.: Cancerous Degeneration in Chronic Leg Ulcer, THE JOURNAL A. M. A., July 6, 1912, p. 14.

3. Cincinnati Lancet-Clinic, 1912, cvii, 606.

gave every indication and promise of proceeding to temporary complete recovery.

When I resumed my service, Oct. 1, 1912, another series of cases was selected and placed on 1 per cent. fuchsin ointment for a four months' period of observation and study. Each ulcer was photographed, and a painstaking history, covering the essential points of each case, was carefully recorded. It was the intention of the investigators to exercise a scrutinous control over as many of these cases as possible, in the hope that the four months of service from October 1 to February 1 would afford ample time to insure their complete clinical recovery. After an interval of four weeks some of the cases showed marked intolerance to the remedy in the form of local inflammatory reaction, discomfort, pain and burning. Nearly all the ulcers cleaned rapidly and showed the same but not as rapid and satisfactory improvement as those treated on March 1, 1912. The remedy was not uniformly well tolerated and the subjective discomfort and secondary inflammatory disturbance was not as promptly and completely relieved as in the first series of cases. Investigation revealed that the hospital was substituting *commercial fuchsin* for Grübler's Fuchsin (für Bakterien),[4] and on my recommendation the patients were withdrawn temporarily from this treatment until the latter specified fuchsin was supplied. It required an interval of several weeks before the change could be effected, which was long enough to influence unfavorably the result of the investigation. While the second series of cases is nothing more than a confirmation of the results following the use of the dye in the first series, it does show very conclusively that fuchsin other than that specified (Grübler's Fuchsin für Bakterien) may be highly irritative and should not be used indiscriminately. The patients showed the same favorable improvement and tolerance as soon as the change from commercial to Grübler's fuchsin was made. In a few instances it is necessary to modify the ointment and to discontinue the remedy temporarily because of symptoms of mild intolerance on the part of some of the patients. I submit the preceding as a preliminary report and hope to be able to present a more detailed and exhaustive account with the next series, covering four months of uninterrupted observation and study.

I am strongly impressed with the belief that in this class of cases basic fuchsin possesses the most satisfying therapeutic efficacy. I heartily recommend the use of this remedy as a routine measure in this class of cases. Other measures such as antisyphilitic treatment, corrective appliances, etc., when particularly indicated, should be employed. If the remedy possesses marked therapeutic efficacy in this hopeless class of cases, it also gives promise of yielding a wide field of usefulness as a therapeutic agent in many directions.

We wish to thank Drs. R. Reed, Charles Reynolds and Julian Benjamin, interns of the Cincinnati Hospital, for friendly and cooperative assistance.

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4. The fuchsin furnished was probably "fuchsin Sauer."

A Good Surgeon Is Something More than a Mere Skilful Mechanic.—There is no more difficult problem in surgery than that which presents itself in making a proper selection of cases for operation: Anatomic, physiologic and pathologic knowledge, diagnostic acumen, prognostic capacity are all requisites of the good surgeon. *Any one can become a surgical mechanic.* Capable surgeons are not so easily produced.—David Drummond in *Clin. Jour.*

THE TREATMENT OF NEPHRITIS AND ALLIED CONDITIONS*

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It is now almost two years since the first attempt to utilize the following views was made by James J. Hogan, who relieved a case of acute nephritis with anuria by injecting an alkaline hypertonic sodium chlorid solution. Since that time the simple principles of treatment proposed have been tried on many private and hospital patients, so that it has been possible to arrive at some conclusions regarding their actual value. I wish to discuss this question briefly in the following pages. At the same time, in order to satisfy a number of medical men, I desire to outline in greater detail the method of treatment which will in my judgment insure the best results.

For a detailed statement of my colloid-chemical views on the nature and cause of nephritis I must refer the reader to previous discussions.[1] They may be briefly expressed as follows: All the signs and symptoms of nephritis are colloid-chemical in nature, and in the main are the result of a common cause, the abnormal production or accumulation of acid in the kidney. The action of the acid in making the protein colloids of the kidney go into solution in the urine explains the albuminuria; its action in making the kidney-colloids swell causes the increase in the size of the kidney; its action in precipitating a second colloid makes the change of color (graying) in the kidney. Since the (colloidal) cement-substance that holds the kidney-parenchyma fast to its supporting tissue dissolves more easily than that which binds the cells to one another, the cells slip out of the uriniferous tubules in groups called "casts." The casts may be cellular, granular or hyaline, depending solely on the state of the colloids found in them. This state in its turn is determined by the amount of acid, salt, etc., present in the blood, the kidney or the urine. The changes in the output of water are referable to a disturbance in the normal dynamic relations existing between the concentration of water and acid found in the blood, and the water and acid found in the kidney-parenchyma. The absolute decrease in the amount of dissolved substances secreted is held to be secondary to the absolute decrease in the amount of water secreted by the nephritic kidney. The change in the relative concentration of the dissolved substances in a nephritic urine as compared with the relative concentration of the same substances as observed in normal urine is dependent on changes in the adsorption characteristics of the blood- and kidney-colloids, as influenced by such a change in the composition of the kidney as is determined by an abnormal production or accumulation of acid in this organ.

I maintain that all nephritides are parenchymatous. These may be general (involve the whole kidney), as is the case in the ordinary acute or chronic intoxica-

* The relief of glaucoma through rectal injections of alkali and salt is discussed in the author's reprints.

*From the Eichberg Laboratory of Physiology in the University of Cincinnati.

1. Fischer, Martin H.: Edema, New York, 1910, p. 191; Further Remarks on a Colloid-Chemical Analysis of Nephritis, Kolloid Ztschr., 1911, viii, 202; Contributions to a Colloid-Chemical Analysis of Absorption and Secretion (Absorption from Peritoneal Cavity), Kolloid-chem. Beihefte, 1911, ii, 304 (available in English in Cincinnati Lancet-Clinic, 1912, cviii); Practical Points in the Treatment of Nephritis, Ohio State Med. Jour., Aug. 15, 1911; Nephritis (a monograph dealing specifically with this subject), New York, 1912.

tions; or focal (involve only parts of the kidney), as is the case in the so-called chronic interstitial nephritides associated with cardiovascular disease (primarily contracted kidneys). In the latter, in consequence of changes in the blood-vessels, one fragment after another of the kidney is destroyed and replaced by connective tissue; but between these spots the kidney substance is largely normal, and so the decrease in urinary output, the albuminuria, the casts, etc., may be largely absent.

I wish to direct attention to two more points in order to render more clear the purpose of my therapy. It is universally held that the generalized edema of a patient is secondary to the kidney disease. This is, in the main, incorrect; for nephrectomized animals either develop no edema at all or only a very slight one as compared with the edema developed, for instance, after the injection of uranium nitrate. I believe that the generalized edema and the edema of the kidney (nephritis) arise simultaneously and from the same cause.

The other point is that there is no free water in the body; it exists in all the tissue- and body-fluids only in combination (as water of hydration) with the various (hydrophilic) colloids present. When any free water appears in the body, it is quickly removed by one of the secretory organs (such as the kidney). Conversely, it is impossible to get any secretion except as we furnish the secreting organ free water.

Text-books list as "causes" of nephritis, excessive muscular work, heart-disease, lung-disease, anemia, carbonmonoxid poisoning, exposure to cold, interference with the blood-supply to all or to a part of the kidney (pressure on the kidney-vessels, arteriosclerosis, thrombosis, embolism), intoxication of the kidney-parenchyma with a toxin, chloroform, ether, arsenic, uranium, chromium, lead, phosphorus, amyl nitrite, etc., restriction of salt consumption or excessive consumption of water low in salts. These all gain their etiologic importance because they represent methods which directly or indirectly make for an abnormal production or accumulation of acid in the kidney.

These remarks will suffice to indicate why I have formulated the general rule for the prophylaxis and treatment of nephritis in the following terms: As far as possible, avoid and combat every condition that favors the abnormal production or accumulation of acid in the kidney. Evidently the pathologic condition of the patient must be taken into consideration in the application of this rule. Naturally an anesthesia nephritis with suppression of urine will call for a more aggressive therapy than nephritis secondary to a slowly progressing arteriosclerosis. If we succeed in getting the first nephritic over his immediate kidney symptoms, we may make a hopeful prognosis, for when he has exhaled his anesthetic he has rid himself of the condition that was responsible for the abnormal acid content in his kidneys. But in the case of the second nephritic so hopeful a prognosis cannot be made, for while we may also benefit him, he continues to carry the original condition that brought him to us—his arteriosclerosis—even after we have treated him.

My rule for the treatment of the threatened or established case of nephritis may be summarized in these words: Give alkali, salts and water. The reasons in brief are as follows: The alkali is given in order to neutralize the acid present in abnormal amount in the kidney and in the other edematous organs of the body. The salts are indicated (and sodium chlorid is no exception) because the various changes induced in the kidney-colloids by acids are counteracted by adding to such acid any salt, even a neutral salt.[2] We need to give water in order to have more of this present in the body than is necessary to saturate all the body-colloids; otherwise we shall have no "free" water left for the secretion of urine.

THE PROPHYLAXIS AND THE TREATMENT OF THE MILDER CASES OF NEPHRITIS

First of all, it is necessary to get as clear a conception as possible of all the factors that conspire toward the production or the maintenance of an abnormal acid content in any case of nephritis.[3] Usually there is more than one factor. To the toxic cause of a scarlatinal nephritis may be added that of inadequate oxidation if the patient develops bronchopneumonia. To the toxic nephritis of a pneumococcus infection, already aggravated by interference with respiration, may be added an additional item if the patient develops a convulsion, and so (through muscular work) produces suddenly an enormous additional amount of acid. The eclamptic who has just managed to drag through the last weeks of pregnancy faces death when the muscular efforts of labor or of a convulsion add more acid to that resulting from the intoxication of pregnancy. The patient with subacute or chronic nephritis, who, with persistent edema, some casts, albumin, and a deficient output of urine, is permitted to walk about the ward, may be keeping up the acid content of his tissues by even such light muscular work.

After we have removed as many of these conditions as possible, we may turn our attention to combating those which we cannot remove. These we must try to render as innocuous as possible. Directly or indirectly, we shall find ourselves face to face here with the necessity of fighting an intoxication. In an infectious disease we wish to keep the concentration of the unknown toxin produced as low as possible. The toxin is responsible for the abnormal production of acid in the cells of the kidney (and other organs), and I hold this to be the direct cause of the nephritis. But it should be recalled that the acid intoxication is itself proportional to the concentration of the acid, and this too we wish to keep as low as possible. This can be done only by giving water. It must be insisted on, moreover, that the administration of water shall be regular, and not left to the haphazard inclination of the patient. A good rule is to give a glass every hour day and night. The night administration of water is as important as that through the day, for the production of toxin does not stop with nightfall.

If the water contains an alkali of some sort, so much the better. The natural or artificial alkaline spring-waters are perhaps most easily borne. If the patient will tolerate it, 0.5 to 1.0 gm. of sodium carbonate or sodium bicarbonate may be added to each glass of such alkaline water or to plain water. Some patients who cannot tolerate the carbonates will take sodium citrate, sodium tartrate, sodium acetate or other salts of a strong base with a weak acid in half-gram or larger doses every hour, either when dissolved in water or in capsules fol-

2. Fischer, Martin H., and Moore, Gertrude: The Swelling of Fibrin, Am. Jour. Physiol., 1907, xx, 330; Kolloid Ztschr., 1908, v, 197. Fischer, M. H.: Further Experiments on the Swelling of Fibrin, Arch. f. d. ges. Physiol. (Pflüger's), 1908, cxxv, 99, and subsequent papers.

3. The term "nephritis" is used throughout this paper in its ordinary clinical sense as covering that symptom-complex which is characterized by the appearance of albumin and casts in the urine, by changes in the quantitative output of water and dissolved substances by the kidney, by the development of edema, etc.

lowed by water. Calcium hydroxid can easily be given by mixing lime-water with milk. As the salts of the bivalent metals are particularly active in decreasing the hydration-capacity of the body-colloids, the administration of magnesium oxid or milk of magnesia up to the point where two or three easy movements of the bowels are obtained daily, gives good results. The soluble salts of calcium and strontium, as well as their iodids, acetates, lactates, citrates or tartrates, are also available.

The dietary can be made an excellent and natural vehicle for getting alkali and salts into the body. A predominantly vegetable diet means a diet rich in alkali. Instead of restricting the protein intake of the patient as greatly as has been the custom, it is better to allow a moderate protein ration on the condition that the patient will greatly increase his consumption of selected fruits and vegetables. It is well to bear in mind that vegetables and fruits (with the exception of those that are high in oxalic acid) will yield a greater proportion of alkaline and neutral salts when cooked than when raw. The sweet fruits, either raw or cooked, constitute a most agreeable form in which to get an excess of alkali into a patient.

For reasons that I have often discussed, I think that the amount of table-salt should not be restricted, but that, on the contrary, it should be urged on the patient. Food serves as a natural carrier for this. In the form of salt meats and salt fish we can easily get considerable quantities of sodium chlorid into our patient, and if he keeps a salt-shaker at hand he can liberally increase his intake by dusting salt on his vegetables, his fats and such proteins as we allow him. Through the diet alone we can therefore do a great deal to keep the intake of alkali, salts and water high.

Let us now imagine that, in spite of these procedures, the symptoms of the nephritic do not improve or that the symptoms are so severe from the start that alkali by mouth seems inadequate. What are we to do then?

We continue to utilize the gastric route as well as we can, but now make use of the rectum also, in order to get a further absorption of alkali, salt and water. We never seriously consider whether the patient ordinarily drinks distilled water, or tap-water, or a table-water, and from this point of view we might be inclined to ignore the exact composition of the liquid to be injected into his rectum. But it should be remembered that the proper regulation of salt-consumption is accomplished through the "taste" of the individual. If his salt-consumption has been too high, he craves fresh water and so washes out the excess of salts. If, on the other hand, he has lost too great an amount of salt from his tissues, he consumes more salt and makes up the deficit. So when we give a nephritic water by rectum we must try to give him at least enough salt to cover also the washing-out effects that would follow if we gave pure water. Therefore the substitution of a "physiologic" sodium chlorid solution for water, or better still, a "Ringer" solution, is eminently in order.

But a nephritic has other needs than a normal individual. His kidney specifically, and all the rest of his organs generally, are suffering from an abnormal acid content; that is, they have an increased capacity for holding water (an increased tendency to swell). To reduce the edema in the kidney or in the brain, in the optic nerve or in the tissues generally in the nephritic, I therefore try to increase, at least temporarily, the absolute concentration of salt in the whole body. This is best accomplished by using a hypertonic salt solution[4] to which is added an alkali. Obviously when using such a hypertonic solution by rectum (or intravenously) I do not allow any water to be taken by mouth. The patient may wet his mouth to relieve his sense of thirst, but no more; otherwise we should only be reducing the concentration of the solution we are administering.

The following formula works very well:

Sodium carbonate ($Na_2CO_3.10\,H_2O$) ...	10 gm.
Sodium chlorid	14 gm.
Distilled water, enough to make.....	1000 c.c.

Simple as this formula is, care must be taken in its preparation if good effects are to be expected. Sodium carbonate is used, not bicarbonate. The carbonate is physiologically more effective than the bicarbonate, for one of the acids which are produced in the body is carbonic acid, and sodium bicarbonate is already saturated with this, and in consequence cannot act as a carrier. The chemically pure, crystallized sodium carbonate ($Na_2CO_3.10\,H_2O$) or the monohydrated form ($Na_2CO_3.H_2O$) is to be insisted on. Two other forms of sodium carbonate are found in the market, the dry (Na_2CO_3) and the so-called dry or "dried". The "dried" salt found on the ordinary drug-shelf contains approximately two molecules of water of crystallization ($Na_2CO_3.2\,H_2O$). I am inclined to advise against all except the large crystallized form or the monohydrated form, but *whatever salt is used, its water-of-crystallization content must be remembered, otherwise a solution of a different strength from that which I have found most useful will be obtained.* The proportionate amounts of these four salts that may be used are to each other as their molecular weights, or in definite terms:

10 gm. $Na_2CO_3.10\,H_2O$ (mol. wt. 286, crystallized "salsoda") = 4.95 gm. $Na_2CO_3.2\,H_2O$ (mol. wt. 142, "dried" "salsoda") = 4.33 gm. $Na_2CO_3.H_2O$ (mol. wt. 124, monohydrated "salsoda") = 3.71 gm. Na_2CO_3 (mol. wt. 106, really dry "salsoda").

The sodium-chlorid-sodium-carbonate solution should be made up in *distilled* water and filtered. If the salts used are pure and the whole is properly prepared, the resulting solution is perfectly clear.

Rectal Injection of the Solution.—Unless the patient is mentally incapable of comprehending what we say, it is well to explain to him before an injection is made just what we desire to accomplish and to secure his cooperation. As the solution is hypertonic and contains alkali in addition, it not only irritates the rectum somewhat, but leads temporarily to a secretion of water into the rectum while the salt and alkali are being absorbed.[5] If the patient is made comfortable in bed and if his cooperation is secured, the solution is retained for longer periods of time, or entirely, and a more perfect absorption of the alkali and salt is obtained.

To inject the solution, I make use either of a continuous drip-method, or inject larger quantities at varying

4. The osmotic conception of water absorption has assumed such dominance in the biologic sciences that the word "isotonic" has been made synonymous with "isosmotic," while the words "hypertonic" and "hypotonic" have come to mean, respectively, osmotic concentrations above and below this. As we can no longer uphold the osmotic theory of water absorption by protoplasm, we must again learn to use the words "isotonic," "hypertonic" and "hypotonic" in their original sense, "isotonic" referring to solutions of any substance or substances which allow of no change, "hypertonic" to those permitting a decrease, and "hypotonic" an increase in the volume of the cell, tissue or organ.

5. No solution is absorbed or secreted "as such," as is usually taught. See Fischer, M. H.: Edema, New York, 1910, p. 200; Kolloid-chem. Beihefte, 1911, ii, 304 (see Note 1) (available in English in Cincinnati Lancet-Clinic, 1912, cvii); Nephritis, New York, 1912, p. 113; Hogan, J. J., and Fischer, M. H.: The Theory and Practice of Perfusion, Kolloid-chem. Beihefte, 1912, iii, 385.

intervals of time. It is not necessary first to cleanse the rectum locally, and especially are we *not* to try to accomplish this end by a previous administration of cathartics. Both of these methods only increase the irritability of the rectum.

The Fractional Instillation Method.—This is easily accomplished by utilizing the apparatus shown in Figure 1. The solution to be injected is heated to 105 F., and the patient being in position, the catheter is lubricated with petrolatum. Into the funnel are now poured 250 c.c. of the solution, and the stop-cock is temporarily opened so as to drive the air out of the tube and catheter. The catheter is then gently inserted well into the rectum, and the funnel is emptied by again opening the pinch-cock. The short glass tube will inform the operator when the last portions of the mixture are flowing into the rectum, when the hold on the pinch-cock is released. In this way no air will be allowed to enter the rectum and balloon it, and extra irritation from this source will be avoided. The injections may be repeated as often as the symptoms of the patient demand them, or until the patient finds it difficult or impossible to retain them. A period of rest should then be given. If the case is so urgent that this cannot be allowed with safety, then the solution must be given intravenously. (See below.)

Continuous Drip Method.—When the solution is to be given by this method, the arrangement shown in Figure 2 works very well. From 1 to 4 drops a second should enter the rectum. This is about as high a rate of injection as the patient can stand without rejecting the fluid. Roughly, this corresponds to an injection of from 240 c.c. to 960 c. c. per hour.

The injection-fluid is retained best if it is delivered *into the patient* at not less than body temperature, and 110 F. is better. For this reason the thermometer in *D*, located as near the rectum as possible, is of great convenience. As the solution slowly passes out of *A* through the tube, it falls in temperature. The vessel *A* is therefore conveniently filled with the solution at a temperature somewhat above 110 F. Or one can set this vessel into a second one containing warm water, or place the tube *B* in warm water, or cover it with a blanket by way of maintaining the solution at a proper temperature, as convenience and the ingenuity of the medical man dictate. In hospital practice, thermostatic devices heated by electricity or gas may be installed conveniently.

Amount and Time-Interval.—How much of the solution may be given by rectum and how long do we continue with it? The answer to this is found in the condition of the patient. So far as I have been able to observe, no harm can be done by indefinite use of the solution. A full physiologic effect is obtained when the patient is kept free from the various signs and symptoms of nephritis, and the urine is persistently neutral in reaction toward litmus. Such a full effect may be obtained in a day or two, or it may require a week. The symptoms may have cleared entirely even before the saturation of the body with alkali has been carried to the point where the patient secretes a persistently neutral urine. His improvement will by itself suggest a reduction in the number of injections or their entire abandonment.

Individuals differ greatly in their behavior toward these injections. I have seen patients bear them for weeks at a time without complaining and without ever rejecting them. Others will insist from the first that they cannot hold them. In this connection, it is well to point out that if these hypertonic salt-alkali mixtures are retained for any time at all, say even for an hour, they do much good. When at the end of such a period the patient rejects some fluid from the bowel, this is not the same as that which was introduced, simply minus a certain quantity that has been absorbed. Hypertonic sodium chlorid-sodium carbonate mixtures are not absorbed as such. The salt and alkali are absorbed out of the solutions while water is being secreted into the bowel. If the solution is retained even for a short time, the patient will have increased his body-content of alkali and salt, which is the whole purpose of my therapy.

It is well, if possible, in the first twenty-four hours of treatment to have 2 liters (about 2 quarts) of the solution retained by the patient. For a few hours after starting the injection it is well to give but little water by mouth, in order to exert as great a shrinking effect as possible on all the tissues. But as soon as the urinary

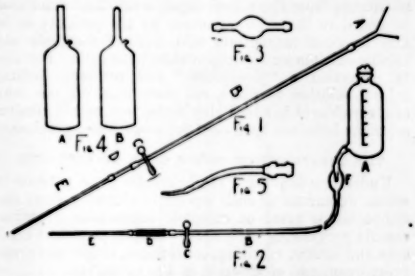

Fig. 1.—Apparatus for fractional instillation method of injecting rectal solution. *A*, funnel with capacity of not less than 250 c.c.; *B*, soft rubber tube at the lower end of which is the pinch-clamp *C*; *D*, short glass tube that connects *B* with the soft rubber catheter or rectal tube *E*.

Fig. 2.—Apparatus for continuous drip method of injecting rectal solution. *A*, ordinary half-liter or liter graduated irrigating vessel with a side tubulation. It connects through the rubber tube *B*, carrying a pinch-cock *C*, with the glass insert *D*, in which lies a thermometer. The insert connects with the soft rubber catheter or rectal tube *E*. *F*, glass insert which permits us to observe the rate at which solution is dripping into the rectum.

Fig. 3.—Bulb insert filled with sterilized glass wool for rectal or intravenous injection of salt-alkali solution.

Fig. 4.—*A*, Ampule for holding sterile salt-alkali solution; *B*, Ampule sealed in a flame.

Fig. 5.—Cannula to be connected with apparatus for injecting solution into vein.

output begins to increase and rise toward a more normal point, I urge the patient to drink water, so as to have free water available for urine. I find good practitioners overlooking the importance of this point constantly. While some water is introduced with the hypertonic salt solution, most of the "free water" that is lost through the kidney after absorption of the hypertonic solution has been taken from the tissues (which may be edematous). But it is self-evident that this robbing of the tissues can go on only for a limited time. Then we have to supply water from the outside if we wish to keep up the urinary secretion.

If for any reason it is not possible to feed enough water by mouth, then we can use the rectum. After the kidneys are functioning in a more normal way, we may substitute for the hypertonic solution one more nearly isotonic with the body-fluids. A "physiologic" salt solution (0.85 per cent. to 0.90 per cent. sodium chlorid) does very well, though the following mixture

is better, for it gives the much needed alkali as well as the water.

Sodium carbonate ($Na_2CO_3.10\,H_2O$) ...	10 gm.
Sodium chlorid	7 gm.
Distilled water enough to make.....	1000 c.c.

This solution may be injected in indefinite amounts and gives rise to no rectal irritation. But since it is not hypertonic, it does not produce so marked or so rapid general effects as we seek in the more acute manifestations of nephritis.

The desire to introduce into the nephritic the bivalent metals which would dehydrate his body-colloids far more than do the univalent metals that are used cannot be easily satisfied. The reason for this is obvious. Their hydroxids are largely insoluble, and so the administration of bivalent metals such as calcium or magnesium along with carbonates or hydroxids is impossible. The only schemes that I have found of service are limited to patients with mild nephritis and to patients who are recovering from the severer types, when lime-water may be added to the milk consumed by the patient; or he may be given magnesium oxid, milk of magnesia and soluble calcium or strontium salts by mouth. For rectal injection a "physiologic," 0.85 per cent., sodium chlorid solution to which not more than 0.1 per cent. calcium chlorid is added also works very well if alkaline solutions have not been used for some hours previously.

THE TREATMENT OF SEVERE CASES OF NEPHRITIS

Under this heading I shall consider those patients in whom we encounter such especially alarming signs and symptoms as great or complete suppression of urine, rapidly progressing optic nerve changes, persistent headache and nausea, vomiting, convulsions, stupor and coma, great quantities of albumin in the urine, etc.

While I realize that a complete explanation of the nature and of the cause of these various clinical signs cannot be summed up in any brief statement, I believe that an essential, if not the essential element in all of them is an edema of the affected part. This edema is represented physico-chemically by an increased swelling on the part of the colloids of the tissues involved, and as responsible for such an increased swelling we hold the abnormal production or accumulation of acid in the part, either alone or in conjunction with such other substances as are also capable of increasing the hydration-capacity of the tissue-colloids. Or, to repeat what I have already often emphasized, what are called the serious complications of nephritis are not really complications secondary to this pathologic entity, but are manifestations in other organs of the body of the thing which in the kidney we call nephritis. The lesions in other organs are as primary as those in the kidney.

Just as the nephritis is in large measure an edema of the kidney, so the optic nerve swelling and the "retinitis" of nephritis are edema of the optic nerve and of the retina; the headache, convulsions and coma are manifestations of an edema of the brain; the persistent nausea and vomiting of central origin are manifestations of an edema of the medulla; and the generalized edema is an expression in the body-tissues of that which in the kidney we call nephritis. The same intoxication underlies all these changes, and it is mere accident, not immediately analyzable, that one nephritic will show particularly prominent eye-symptoms, another a great generalized edema, while a third will call us to his side because of a convulsion. For any one of a number of reasons, the edema may become particularly prominent in his optic apparatus, or in his body-tissues generally, or in his brain. If these facts are borne in mind, it will serve to indicate why I believe that any or all of these conditions demand the same general treatment, and why, if I succeed in combating a particularly prominent one, I find that I have succeeded in combating all the rest as well.

Whether the particularly alarming symptoms spring from the kidney itself (a suppression of urine, a great albuminuria, etc.), or whether they spring from the brain (convulsions, stupor, coma), the eye ("papillitis," "retinitis," partial blindness), or the medulla (nausea and vomiting), the purpose of my therapy is the same—I wish to stop and reduce the swelling of the involved tissues. Naturally the best and quickest way to do this is to inject something into the blood; what this something must be I have already discussed.

The Preparation and Sterilization of the Salt-Alkali Solution.—The first formula already recommended does very well. It is well to have this solution ready for immediate use, for its preparation in sterile form takes time, and the need for it when it arises is urgent. What I have already said regarding its chemical ingredients holds here also. The finished solution as injected into the patient must be perfectly clear and sterile. Simple as it would seem to obtain this result, it is not always obtained even when its preparation is left to trained helpers. Therefore I may be pardoned for detailing the following rules for its preparation in containers that make it available for immediate use.

Trouble arises from the fact that alkaline solutions cannot long be kept in contact with ordinary glass containers without reacting with the glass and so leading to a separation of insoluble silicates. Jena glass flasks resist better than other material, and so the finished solution may be sterilized and kept in these. For this purpose, it is only necessary to dissolve the sodium chlorid and the sodium carbonate in the necessary amount of freshly distilled water, and filter the solution through moistened filter-paper (in order to get no shreds into the solution) into thoroughly cleaned Jena flasks which have been rinsed in distilled water. It is convenient to have 2 liters of solution in each flask. The flasks are stoppered with gauze-wrapped cotton stoppers, and may be sterilized in the ordinary way by boiling. This scheme works well in hospitals or wherever storage-room is plentiful.

When needed for injection, this solution may be poured into any one of the properly sterilized intravenous injection apparatus that abound in the market. If the solutions show a precipitate in spite of the use of Jena glass containers, the clear solution may be decanted or the whole may be filtered through a sterilized funnel into the neck of which has been forced a little sterile glass wool. Or a sterilized glass bulb insert of the type shown in Figure 3 into which has been forced some glass wool may be used in the delivery tube of the injection apparatus. As the carbonates and hydroxids of the polyvalent metals are all insoluble, every piece of any injection-apparatus must be rinsed and sterilized only in distilled water. When ordinary tap-water is used, calcium and magnesium precipitates cloud the injection-mixture.

I have found it best to make up the sodium chlorid-sodium carbonate solution in ampules and then mix this concentrated solution with enough freshly distilled water to yield the proper injection-mixture at the time this is needed. One proceeds as follows: Any desired

number of multiples of 10 gm. of sodium carbonate ($Na_2CO_3.10\,H_2O$) and 14 gm. of sodium chlorid are dissolved in enough water to make 60 c.c. of finished solution. This solution is filtered and then sterilized by boiling.[6] One or more ampules of the type shown in Figure 4, *A*, and of about 60 c.c. capacity (if these are not available, bottles will do as well), are thoroughly cleaned, rinsed in distilled water and then boiled in distilled water to sterilize them. Into each of these, 60 c.c. of the concentrated sodium carbonate-sodium chlorid mixture are then filtered through a small sterilized funnel plugged with glass wool. When the ampules have been filled, they are sealed in a flame as in Figure 4, *B*. If bottles are used they are corked with sterile corks, and over these is fastened a sterilized paper hood to protect the necks from contamination. When an intravenous injection is to be given, an ampule is taken, its neck is nicked with a file, and this and the lateral bead are cleaned with alcohol, and broken off. The contents are then poured into 940 c.c. of freshly distilled water, care being taken to mix the whole so that the specifically heavier salt solution may not simply settle to the bottom.

After many trials I have found this the best way to proceed; and as dispensing pharmacists in any community are willing to carry these ampules in stock, one can easily obtain fresh and clean solutions at all times. If a precipitate of silicates should be found in an ampule, one can readily avoid pouring this into the injection-apparatus, or one may filter the contents of the ampule through a little glass wool.

Technic of the Intravenous Injection of the Solution.—The experience of the past year has convinced me that it is best in making these injections to cut through the skin and expose the vein to be used clearly to view. The results are bad if one fails in his attempt to enter a vein with a hypodermic needle through the skin. The salt-alkali mixture produces a great destruction of the tissues if it is by accident injected into them.

A vein that is deemed sufficiently large is sought in the arm, in the leg, or if necessary, in the neck. As we may wish to make several injections it is advisable to pick for the first injections the prominent veins most distant from the heart. Unfortunately, in many of the conditions in which we wish to use the sodium chlorid-sodium carbonate solution, not much choice is allowed us, for the blood-vessels are so much contracted (toxemic shock?) that it is often impossible to find any usable vein below the bend of the elbow. Even here, surgeons have been unable to find the median basilic in such cases. This will explain to the reader why in extreme cases, such a vein as the jugular needs to be and has been used.

To expose the vein painlessly a few drops of a cocain or a novocain solution may be injected into the skin. If the patient is stuporous or in coma this is of course needless. The vein is freed from its surroundings and a ligature is tied about its distal end. A second ligature is thrown about the vein, and after a cut has been made into the vein and the cannula connected with the injecting apparatus has been inserted, this ligature is tied. Care is of course taken to have no air enter the vein.

The best type of cannula to use is shown in Figure 5. The two openings at the tip and laterally make it well-nigh impossible to shut off the infusion-stream by crowding the cannula against the wall of the vein. The tapering character of the cannula allows one to push it into even a small-calibered vein, and the corrugation holds the cannula in place when the second ligature is tied.

Sometimes it is better to use a large hypodermic needle in place of the cannula. The first ligature about the exposed vein then serves to steady the vein when the needle is pushed into it. When the hypodermic needle is used it is simply held in place until the injection is completed. As can easily be imagined, the use of the needle is especially convenient if one works with such a vein as the jugular. The disadvantages in its use arise from the fact that one is likely at any time to injure the blood-vessel if the patient moves, and from the further fact that the carbonate solution affects the coat of the vein and so tends to leak out about the needle after the injection is kept up for some time.

As I have already mentioned, any of the various apparatus on the market for intravenous injection may be used to give the alkaline hypertonic sodium chlorid solution intravenously. The medical attendant should choose the apparatus with which he is most familiar.

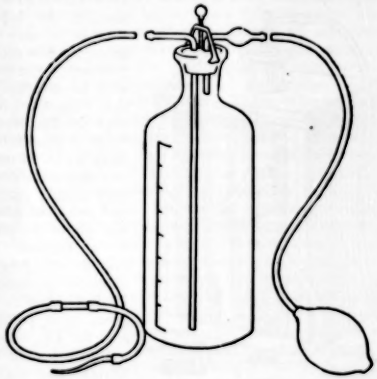

Fig. 6.—Pressure-bottle apparatus for injecting solution into vein.

Perhaps that shown in Figure 2, with a cannula replacing the catheter and minus the thermometer and the insert *F*, is the simplest available form. The side tubulation with the rounded bottom or a glass bulb insert filled with glass wool (Fig. 3) will make it almost impossible, if care is used, to inject any sediment that may accidentally appear in the injection-fluid. The rate of inflow must be slow, and is conveniently regulated by gravity. The pressure-bottle arrangement shown in Figure 6 possesses some advantages over the apparatus just referred to. No special comment is necessary regarding its use, and I need not in this day emphasize the necessity of having all rubber tubes, etc., perfectly sterilized by boiling in distilled water.

The faults of the apparatus shown in Figure 6 are that it possesses no arrangement for keeping the solution at body-temperature, and that we do not know in as accurate a manner as we desire the exact rate and the exact pressure at which the sodium chlorid-sodium carbonate solution is entering our patient at any moment.

6. In my book on nephritis, and in a paper or two, I have cautioned against the use of excessive heat in sterilizing these carbonate solutions. The caution I find was scarcely necessary, for at the ordinary temperatures and pressures at which such sterilization is carried out, the carbonate is not decomposed.

To meet these difficulties, the very useful apparatus shown in Figure 7 was devised by Edmund M. Baehr. We have here again the same glass pressure-bottle already shown in Figure 6, but this is surrounded by a copper water-jacket by means of which the injection fluid may be kept at body-temperature or a little above it. The thermometer registers the temperature existing in the jacket, and as the temperature of the injection-fluid falls on its way into the patient, it is advantageously kept from 3 to 5 degrees above the temperature at which we wish to deliver the solution into the patient. The rubber bulb shown in Figure 6 is advantageously replaced in the apparatus shown in Figure 7 by a metallic pump; a mercury manometer, inserted as indicated in the drawing, allows one to know at all times the exact pressure obtaining in the pressure-bottle.

The solution should always be injected slowly into the circulation so that it may mix with the blood, and at as even a rate as possible. Not over from 30 to 40 c.c. should be injected per minute. By testing out the apparatus *before* making the injection it is easy to note just how much pressure is necessary to accomplish this. As the pressure in the larger veins is almost nil, from 30 to 40 mm. of mercury-pressure usually suffice, and one need never run above 50 mm. if a cannula or needle of proper diameter is chosen. If the solution is given to a patient who for any reason has to maintain an upright position, it is well to remember that in such a case the arm must be comfortably supported in as horizontal a position as possible in order not to have to work against a considerable hydrostatic pressure in the veins. The pressure and the oscillations of the mercury-column indicate every moment whether the solution is flowing in properly or not.

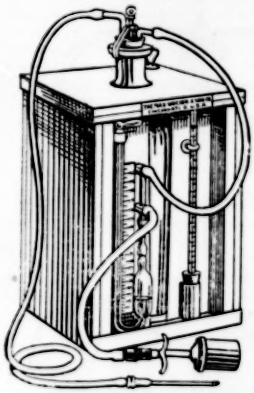

Fig. 7.—Apparatus to keeping solution at body-temperature.

The Quantity and Time-Interval of the Salt-Alkali Injections.—It is necessary to say now how much of the solution may be injected at one time and how often the injection may be repeated. In any case of suppression or in a case with convulsions, persistent vomiting or other alarming symptoms, from 1,800 to 2,000 c.c. of the solution should be given for the first dose. In the case of a child I give a proportionate dose obtained by dividing the child's weight by that of a small adult. A child of 30 kg. (66 pounds) is given half the dose of a man weighing 60 kg., etc. The repetition of the injection and the amount given subsequently must then be determined by the condition of the patient. If within two or three hours urine begins to come and the convulsions stop, or if the sensorium clears or the headache and eye-symptoms improve, enough has been given for the time being.

If the patient is awake, he is likely to complain of thirst during the injection. It is best not to let him satisfy his thirst immediately for the reasons that I have already discussed. If the redevelopment of some prominent symptom indicates that the patient is relapsing into his previous state, then a second injection of 1 or even 2 liters of solution may be given six, twelve, or twenty-four hours after the first injection. Closer rules than this can hardly be given. If the patient improves for a number of hours after the first injection, and then goes down again, repeat the injection at this time. From 500 to 1,500 c.c. in any twenty-four hours after the first injection is certainly safe.

If the suppression of urine is not absolute, then it is a useful guide as to the amount of alkali and salt that may be urged on the patient. It is safe to give alkali, and it should be given until the urine is *persistently* neutral or slightly alkaline to litmus. For self-evident reasons, it is possible for the urine to be alkaline immediately after an intravenous injection, even when the acid content of the body generally is still abnormally high. Not until the urine is persistently neutral, therefore, can we say that we have really succeeded in getting an adequate amount of alkali into the patient.

Various observers have commented on the large quantity of fluid that is injected intravenously in clinical cases of nephritis and allied conditions. I have injected as high as 4 liters (4 quarts) in twenty-four hours. Some clinicians have for various reasons remonstrated that this is dangerous, chiefly on mechanical grounds, and because this "throws work on the heart." In so far as the elimination of water from the body costs energy, this is to a limited extent true, but only to a very limited extent, as I have previously insisted. Physiologists know that the volume of circulating blood can be more than doubled without appreciable effect. Counting the blood in the human being as one thirteenth the body-weight, it is therefore entirely safe to inject a liter of fluid for every 13 kg. (about 28½ pounds) of body-weight; but as I have pointed out elsewhere,[7] this is a safe figure if blood, in other words water in combination with a colloid, is injected. Only such remains in the blood-vessels. When the water is injected "free," as in a salt solution, this rapidly leaves the blood-vessels, and so the amount of this that may be safely injected lies still higher. What I have said here is still largely true even when we deal with sclerosed blood-vessels, though to allow for the diminished elasticity of the blood-vessels in such cases a slower injection or injection of a less amount at more frequent intervals, as the judgment of the operator may dictate, may advantageously replace the single large injections.

About one in every three patients injected with alkaline hypertonic salt solution develops some reaction. At times he develops a chill which, however, does not last long, or he has a slight rise in temperature. Once I found sugar in the urine. It will be noticed that these findings are similar to those observed after intravenous injections of salvarsan and other medicaments. European authors have laid stress on the distilled water employed in making up the solutions, maintaining that bacterial products are present in old distilled water. For this reason I have always urged the use of freshly distilled water, but even then I have seen these reactions.

7. Fischer, M. H.: Edema, New York, 1910, p. 184; Nephritis, New York, 1912, p. 193; Kolloid-chem. Beihefte, 1911, ii, 304 (see Note 1). Hogan and Fischer: Kolloid-chem. Beihefte, 1912, iii, 385.

I next attributed the effect to the action of the alkali on the red blood-corpuscles, and a resulting hemolysis. This, however, can only be a small part of it, for one of the worst reactions I ever saw occurred in a woman to whom I gave a concentrated solution of neutral salt only. To explain the findings—which are now being studied on laboratory animals—I have come to the tentative conclusion that two things are active: first, a shrinking of the red blood-corpuscles which makes these less able to carry oxygen; second, a more important direct action of the salt and alkali on the medulla. The latter effect, I think, leads to the vasomotor disturbance in the skin which we call a chill, to the consequent retention of heat that accounts for the rise in temperature, and to the appearance of sugar in the urine, as Bock and Hoffmann[8] found many years ago when rabbits were perfused with sodium chlorid solutions. How to avoid these effects is not yet entirely clear to me. The rules that I have formulated for my own guidance call for the use of freshly distilled water and as slow an injection as is conveniently possible. It is undoubtedly better to give in place of single large intravenous injections several smaller ones separated by intervals of time which allow the salt and alkali to diffuse into the body-tissues, but unfortunately the necessity of opening into more than one vein and the critical condition which we are usually asked to meet does not always allow of this. Before, throughout and after the injection the patient is carefully protected from muscular exertion, and the possibility of a chill is guarded against by extra blankets, hot-water bags, etc. If complete muscular and mental relaxation is not easily obtained, a *small* dose of codein, heroin or morphin may be used.

CLINICAL RESULTS AND COMMENT

In the light of the considerations in the earlier paragraphs of this paper it will not surprise any one that the acuter forms of nephritis which we observe after various intoxications are usually easily relieved by giving alkali and salt in sufficient concentration. While at first sight it seems rather strange that a woman in a pregnancy-intoxication with little or no urine, with great quantities of albumin and casts, with constant headache and nausea, with partial blindness, with convulsions and coma perhaps, ceases her convulsions, comes out of her coma, says that her headache and nausea are better and shows an improvement in the urinary output within a few hours after an intravenous injection of an alkaline hypertonic salt solution, there is really nothing strange about it. If I am correct in maintaining that these various signs and symptoms represent from the side of various organs the same series of colloidal changes which in the kidney are called nephritis, and if I have correctly analyzed these colloidal changes as being of the nature that are induced through an abnormal production or accumulation of acid in these various organs (in its turn all brought about by the same poison circulating through all the organs of the body), then it is to be expected that the alkali and salt which will relieve the signs and symptoms referable to one of these organs must also relieve those referable to any other.

It is obvious that on such a basis an anesthesia-nephritis must be easily relieved when alkali and salt are introduced into the body. During an anesthesia we introduce into the body a poison which interferes with the normal oxidation chemistry in nearly all the cells; and that we have an abnormal production and accumulation of acid in the body following this is attested to not only by the thirst of which the patient complains, but by the accelerated breathing and heart-beat, the abnormally high acid (hydrogen ion) content of post-anesthetic urine, and the appearance in it of such "acidosis" products as acetone, diacetic acid, lactic acid, etc. As soon as we stop administering the anesthetic the patient begins to exhale this; therefore, in a comparatively short time the intoxication responsible for the abnormal production and accumulation of acid in the body disappears.

The patient also usually succeeds in oxidizing the acid products resulting from his intoxication, so that it is the usual thing to see a patient bear his anesthesia without bad after-effects. Sometimes, however, he is not so successful in overcoming the effects of his anesthesia, and then if his intoxication evidences itself chiefly by symptoms referable to his kidneys, we say he has a post-operative nephritis. If it should happen to involve his liver particularly, we say he has a "postoperative jaundice," "chloroform liver," etc. If now we administer alkali and salt, the alkali neutralizes the abnormal acids present, and the increased salt concentration reduces the hydration-capacity of his swollen kidney-colloids and other body-colloids. If the injury to them has not been too great (or technically, if the colloidal changes have not become "irreversible"), these measures quickly restore his kidneys (and other involved organs) to a more normal state. As the body-colloids shrink, "free" water becomes available for urine. This shrinking in the kidney assures this organ a better blood-supply and the kidney-cells themselves are also once more enabled to resume their work. Once we have obtained this result, a recurrence need scarcely be feared, for the original toxin (the anesthetic) has by this time disappeared from the body and the relief obtained is permanent.

If we write the names of other toxic agents in the place of "anesthetic," we can imagine what happens in the nephritides that we encounter in any of the acute infections, and in the various other acute intoxications which we know to be associated with the development of nephritis. Here again natural physiologic processes take care of the great majority of cases, but when they do not we may again be able to give relief.

For self-evident reasons our prognosis grows worse and our efforts need to be greater when the intoxication is prolonged or is of a less removable type. We encounter this situation in protracted infections, in acute infections that leave behind toxins that stick with particular firmness to the kidney-cells (scarlet fever?) and in the prolonged intoxications resulting from phosphorus and the heavy metals. Not alone do some of these produce irreversible colloidal changes (necrosis) in the cells of the kidney from the start—changes, therefore, which can never be "cured" by any therapeutic procedure—but, even when such is not the case, in these prolonged intoxications the interference with the normal oxidation chemistry of the kidney-cells is of a more lasting character. Here our therapy also must be more persistent. Therefore in the nephritides following the administration of mercury or arsenic, in those accompanying acute and chronic infections, and in those of pregnant women, a single dose of alkali and salt may do no more than give temporary relief. We must meet the intoxication as long as it persists, and only as the nature

8. Bock and Hoffmann: Arch. f. (Anat. u.) Physiol., 1871. Fischer, M. H.: Univ. of California Publications in Physiology, 1903, i, 77; *ibid.*, 1904, i, 87; Arch. f. d. ges. Physiol. (Pflüger's), 1904, cvi, 80; *ibid.*, 1905, cix, 1.

of the intoxication permits of this, or our skill is equal to the occasion, can we hope for good results.

We move from the protracted case of nephritis which is the result of a lasting intoxication of some kind by imperceptible steps over into the chronic nephritides. As soon as we discuss the chronic nephritides we find that we have to distinguish between those which represent a mere continuation of what was once a more acute process (the chronic parenchymatous nephritides, the secondarily contracted kidneys) and those which are chronic from the start, as in the type generally known as chronic interstitial nephritis (primarily contracted kidney) associated with changes in the cardiovascular system. Evidently if my views are correct, the nephritis which continues because of a protracted intoxication needs equally protracted treatment with alkali, salt and water. It has seemed to me that such a procedure yields good, and at times unexpectedly good results; but of this each must convince himself, for it is impossible, except as one works these things out for himself, adequately to meet the eternal argument that what has happened in such cases would have happened anyway.

Especially is it difficult to meet such an argument when we deal with the chronic interstitial types of nephritis associated with cardiovascular disease. One can foresee from the start that this type of nephritis offers the least possible chance of being markedly benefited by an alkali-salt-water therapy, and in its final stage none at all. I have emphasized this repeatedly, and were it not for the fact that it is on this very type of case that some of my critics have based their arguments, it would scarcely be necessary to refer again to some self-evident facts. How much and what can we do for such cases?

The primary change in chronic interstitial nephritis associated with vascular disease is not nephritis but vascular disease. Every experimental fact and all physiologic reasoning bear this out.[9] In consequence of the vascular disease, one piece after another of the kidney suffers destruction. These pieces as they degenerate show the morphologic evidences of "parenchymatous nephritis," and corresponding with these destructive lesions we find traces of albumin and a few casts in the urine. This process may go on for years without being noticed by the patient, for the healthy kidney-tissue between the areas of nephritis is able to carry on the necessary functions of excretion. Such a patient can get along easily with one-fourth of his total kidney-substance, and is more likely first to be made aware of his condition in a life-insurance office than in that of a physician whom he has himself sought; and if we make the diagnosis, his blood-pressure and the evident changes in his heart and blood-vessels are what lead to a correct estimate of the significance of his albumin and casts.

If we but remember that the blood-vessel disease is the primary thing, then we get also a correct estimate of the significance of the changes in distant organs—changes considered by most as consequences of chronic interstitial nephritis. An "albuminuric retinitis," a glaucoma, persistent headaches, even the uremic convulsions and coma occurring in these cases, are the same thing in the retina, the eye or the brain which in the kidney we call chronic nephritis. The hemorrhage into and swelling of the retina, the swelling of the eye with its clouding of the clear media, and the edema of the brain are analogous to the hemorrhage, the clouding and the swelling of smaller or larger areas of the kidney affected with chronic interstitial nephritis. That which is common to both is disease of the blood-vessels; and as this blood-vessel disease cannot be and is not materially influenced by the injection of alkali, salt and water, this therapeutic procedure can be of little or no use in this type of disease. The only cases in which it can be of service are those in which the blood-vessel disease is in itself not wholly responsible for the observed changes, but other temporarily active factors have been or are also responsible in bringing about the clinical picture.

An illustration of this is offered by the "exacerbations" which we note clinically in the cardiovascular types of chronic interstitial nephritis. Cardiac dilatation, an anesthetic, an alcoholic debauch, hard muscular work or starvation will do to the cardiovascular kidney what they do to a normal kidney, in which case these effects are added to those already produced in this organ by the irremovable blood-vessel disease. The cardiovascular (focal) parenchymatous nephritis becomes a diffuse nephritis, and clinically, a normal water output with few casts and little albumin gives way to a lowered output with many casts and much albumin. Alkali and salt relieve the consequences of such added factors, but blood-vessel changes that permanently interfere with the blood-supply (especially end-arteries) to a portion or all of an organ, are not relieved thus.

If the simple argument that I have outlined will be borne in mind, it will help to a better understanding of what may be expected and what cannot be expected from the use of alkali, salt and water in the chronic types of nephritis. The final picture of such cases is all too often not that of pure nephritis, but one complicated by a failing heart. When a heart from any cause whatsoever drops below the lowest level of efficiency necessary to maintain a proper circulation, and has no remnants of recuperative powers left in it, alkali and salt cannot supply them.[10]

A detailed account of the clinical histories of a number of nephritics treated by the method herein described is given not only in my book but elsewhere.[11] These have been commented on in various ways—to some they "read like the cures of the nostrum venders,"[12] to others the patients would have recovered anyway; some believe the whole procedure valueless, some believe it distinctly harmful; one group accepts what I have written as essentially true. In the dilemma I can only advise the objective thinker in medicine to reject my views and in treating his patient first exhaust other approved methods. If by any chance he should feel that his patient is going to die, then he may turn to an alkaline hypertonic salt solution. If the patient dies, the expected will merely have happened. If the patient lives, it proves nothing, but it may encourage repetition of the experiment. And this, I feel, is all that is necessary.

9. For a discussion, see Fischer, M. H.: Edema, New York, 1910, p. 192. Nephritis, New York, 1912, pp. 56 and 94.

10. This is the type of case chosen by Joseph L. Miller (Am. Jour. Med. Sc., 1912, cxliv, 8; Clinical Experience in the Drug Treatment of Edema, abstr., THE JOURNAL A. M. A., June 22, 1912, p. 1972), on which to test out the value of a salt-alkali therapy. Aside from the fact that his "'Fisher' solution" had a composition all his own, his results were entirely predictable. According to his own statement the majority of his patients were nephritics with permanently decompensated hearts. Naturally alkali and salt could not produce a diuresis when the mechanism for water secretion was about gone. Only heart and respiratory stimulants, such as caffein and its derivatives, drugs in other words which gave these hearts a last kick and temporarily assured a better oxygen supply to the kidney- and body-tissues generally, gave a temporary "diuresis." It was not necessary to be a believer in any of the colloidal notions of water absorption to foresee all this, for we have known since 1860 that an inadequate circulation will not allow even a normal kidney to secrete urine.

11. Fischer, M. H.: Nephritis, New York, 1912, p. 160; Tr. Assn., Am. Phys., 1912.

12. Review of Fischer's "Nephritis," Arch. Int. Med., May, 1912, p. 637.

ACUTE POSTERIOR GANGLIONITIS

SIMULATING SURGICAL CONDITIONS IN THE ABDOMEN

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Herpes zoster is the eruption, the peripheral manifestation, of acute posterior ganglionitis. During the symposium on acute anterior poliomyelitis, at the recent International Congress on Hygiene and Demography in Washington, frequent reference was made to the analogy between the disease under discussion and herpes zoster, in their prodromal symptoms, their self-limited course, occasional epidemic character, evidence of contagiousness in some cases, and the usual immunity to second attacks. Russo,[1] Fuchs, Hutchinson, Hybord and others, furthermore, have described cases of herpes zoster accompanied by paralyses. Whether or not the epidemic, sporadic, traumatic and secondary forms of herpes zoster are etiologically identical has not yet been determined, nor does it at present concern us.

The following description of the symptomatology of acute posterior ganglionitis, gathered from my own observations and from various articles and reported cases, is calculated to show at a glance ample justification for the title of this article.

An attack of acute posterior ganglionitis may be preceded by a prodromal period extending over several days, marked by restlessness, general malaise, anorexia, digestive disturbance and colicky pains; or an attack of sharply localized pain may have occurred in the same locality a week or more before the pain which is followed by the characteristic eruption. The real onset of the disease may be signalized by the occurrence of a sudden, severe, more or less sharply localized pain, which may arouse the patient out of a sound sleep at night and has been described as sharp, shooting or lancinating. This may be accompanied or preceded by chilliness, shivering or slight rigors, general muscular pains, and a slight rise of temperature—100.5 in an adult or 102 in a child—nausea or vomiting, local tenderness, and moderate leukocytosis (13,000 to 18,000, chiefly polymorphonuclear, although the eosinophils may share in the increase). The only records of leukocyte counts in this disease which I have been able to find have been made after the appearance of the eruption, but it is fair to assume that leukocytosis often exists in the preeruptive stage. Acute cases may be accompanied by retention of urine and feces. In one case reported by Sabrazés and Mathis,[2] the pain appeared suddenly in the right hypochondrium after an unusual effort. This severe and sharply localized pain and tenderness may precede, by as much as five days, the appearance of the characteristic eruption over the same area. Now let the corresponding ganglia be affected and we may have the pain and tenderness occurring over the appendix, the gall-bladder, pancreas or ureter, radiating to the scrotum or labia majora.

Savill[3] says the neuralgia which accompanies or follows herpes is one of the rarer causes of severe abdominal pains without collapse.

Cabot[4] credits herpes zoster with causing lumbar pains as frequently as all of the renal affections combined.

My attention was first attracted to this interesting question by the following case:

1. Russo, V.: Gazz. d. osp. e d. clin., July 20, 1911, No. 87.
2. Sabrazés and Mathis: Rev. de méd., 1901, p. 251.
3. Savill, T. D.: System of Clinical Medicine, Ed. 2, London, Edward Arnold, 1909, p. 257.
4. Cabot, R.: Differential Diagnosis, Philadelphia, Saunders Co., Ed. 1, table op., p. 78.

CASE 1.—Mrs. J. K., widow, aged 45. First seen Dec. 24, 1907. Very severe pain over the course of the left ureter for several days, with severe exacerbations at night, bad enough to keep her awake—not exactly colicky, but waves of pain. Pain not influenced by taking food, bowel movements or urination. Vaginal and rectal examinations negative. Tenderness elicited, on deep pressure, over the region of the left ureter and nowhere else.

Radiograms were at once taken, and owing to the apparent urgency of the case, Dr. Boggs very kindly went to his laboratory on Christmas morning to develop the plates, which were negative. On the afternoon of the 25th a characteristic rash of herpes zoster appeared over the site of the previous pain and tenderness. A leukocyte count had been ordered but not yet made.

In October, 1912, I saw, through the kindness of Dr. George H. Vaux, the following case:

CASE 2.—Mrs. A. P., aged 70. First seen by me Oct. 2, 1912. My opinion was sought as to the advisability of immediate operation. She was taken sick September 25, with severe pain across upper part of abdomen, which kept her awake most of night. Pain was not so severe during following day, but very severe again at night, with considerable chilling ("teeth did not chatter"); temperature 101.

September 26 and 27, abdominal distention and September 28 still considerable abdominal pain; didn't complain particularly of nausea, but vomited egg and toast.

September 29, somnolent condition. Clear when aroused, but immediately went to sleep again. Turpentine stupes, applied for abdominal distention, left redness in the right hypochondriac region. Bowels kept open with calomel, etc., from the start.

October 1, slight signs of old infection at right pulmonary apex; gallstones diagnosed and immediate operation recommended by a consulting surgeon.

October 2, abdomen much distended, no vomiting, no severe pain since Sept. 28. Systolic pressure 95, pulse 80. Well-marked area of herpes zoster in the right hypochondriac and right subscapular regions. The rash which first appeared along the right hypochondrium was attributed to strong mustard plasters or turpentine stupes which had been used for pain and meteorism, and it was only when a characteristic herpetic eruption was discovered in the same segment posteriorly that the true nature of the case was recognized. Close inspection of the anterior patches of herpes then disclosed the cauliflower-like aggregation of tiny vesicles, which, if noticed earlier, would have excluded the idea of a burn.

Marinacci[5] reports a case of herpes zoster in which intense pain across the lower abdomen, with marked tenderness in the hypogastrium and in both iliac fossae, fever, small frequent pulse, persistent vomiting and hiccough, with the face drawn and changed by suffering, strongly suggested a peritonitis, but bladder and intestines continued to function normally. Had they been inhibited, as they might have been by the ganglionitis, the picture of peritonitis would have been strikingly complete. There was no muscular rigidity, and of course no peritoneal effusion.

I have heard indirectly of several cases of herpes zoster in which the first diagnosis was appendicitis.

For months after an attack of acute posterior ganglionitis there may be localized hyperesthesia or hyperalgesia, or visceral neuralgias. Hence, in considering the possible causes of abdominal pain, scars and a history of recent herpes should be carefully sought.

Head[6] mentions the fact that cases of herpes zoster in the preeruptive stage have been admitted to the London hospitals as pleurisy or pneumonia.

5. Marinacci, S.: Riv. osp., Rome, 1912, ii, 393.
6. Head, Henry: System of Medicine, Albutt and Rolleston, ed. 1910, vii, 470.

I can find no record of leukocyte counts in this preeruptive stage. Nor does a study of medical literature[7] since 1885 (as represented in the "Index-Catalogue of the Library of the Surgeon-General" and the *Index Medicus*) reveal any other reference to this possible source of diagnostic error. On the other hand, several articles have appeared during the past few years showing a probable etiologic relation between visceral lesions—trauma, nephritis, hydronephrosis, etc.—and certain cases of herpes zoster, therefore the appearance of an herpetic eruption does not by any means exclude renal colic or other visceral conditions, which may even stand in causal relation to the ganglionitis. Under these circumstances the segmental zone in which the herpes appears may give information as to the organ involved.

Rosenbaum[8] reports that a patient of his with renal colic, followed by herpes zoster, described the pain of the former as deep interior and colic-like as contrasted with a superficial pain and burning of the zoster. The character of the pain, however, cannot be depended on in making the diagnosis.

Head states that when the tenth dorsal segment is affected with simple herpes zoster the testicle does not become tender as it does when the tenth dorsal segmental area becomes hyperalgesic as a result of renal calculus.

We should be particularly on our guard against mistaking an acute posterior ganglionitis, in the preeruptive stage, for a condition demanding surgical intervention in all patients with diseases which are especially liable to be complicated by herpes zoster, such as tabes, general paralysis, tuberculosis, psoriasis, and possibly all patients who are taking arsenic.

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A COMPARISON BETWEEN ZOSTER OF THE FACE AND THAT OF THE LEG

AS SHOWN IN TWO CASES RECENTLY OBSERVED

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The anatomic basis of zoster is an inflammation of the ganglion on the sensory root of a cranial or spinal nerve. This ganglionitis gives rise to trophic disturbances in the emerging or efferent nerve that cause the characteristic, grouped vesicular eruption. As for the cause of the ganglionitis, in the vast majority of instances it undoubtedly is a micro-organism, but this point need not be dwelt on here, except so far as it helps in the elucidation of the present comparison.

The symptoms common to zoster in any situation are:

1. The almost constant occurrence of neuralgia of the nerve, the cutaneous distribution of which is about to be the seat of the eruption. This neuralgia may precede the eruption, sometimes by a considerable time, or it may be coincident with the cutaneous outbreak. Sometimes this symptom is entirely absent.

2. A characteristic vesicular eruption, often grouped, and often plainly showing, by its distribution, its dependence on the cutaneous branches of a sensory nerve. Even the individual lesions carry the mark of their trophoneurotic origin, as the contents of the fresh ones are sterile, and their shape is conical with the point of the cone directed inward.[1]

3. The eruption is almost always unilateral, and these symptoms of unilaterality, the grouping and the linear distribution of the lesions, and the brilliant jewel-like appearance of the vesicles, are sufficient to make a positive diagnosis.

4. The eruption is self-limited, and one attack usually grants immunity against the occurrence of future attacks.

The eruption of zoster, no matter where it occurs, is so characteristic as almost always to permit of an instantaneous diagnosis; nevertheless the differences in the comportment of a zoster eruption that occurs on the fifth nerve, especially its two upper branches, and that which occurs on any of the spinal nerves, are so constant and marked as to clearly show each difference is due to some equally constant cause. These differences are the points that we especially wish to emphasize in this paper, and to make them more emphatic we report the following recently observed cases:

CASE 1.—A man about 50 years of age consulted us Oct. 17, 1911, in regard to a vesiculopapular eruption on a reddened base that had appeared the day before on the outer surface of the lower third of the left leg. As possibly contributory to the appearance of the eruption he related the following: October 5, he slipped on the sidewalk, falling backward, but not completely, as he caught himself on his hands. October 8, after a long walk, he felt an uneasiness in the leg. During the day of October 12 the leg felt a little sore in an indefinite way and that night he suffered severe pain. The pain persisted and October 16 the eruption broke out. There was one large group of vesicles and two smaller ones, which were only fairly characteristic. The vesicles, however, did not look like those of neurotic eczema, as they were larger. The papules were also larger than we would expect in this disease, and there was no itchiness. The fact that there were two distinct groups and that the attack was preceded and accompanied by severe pain excluded herpes simplex. The pain appeared to start in the ankle bend and radiated upward on the outer surfaces of the leg and thigh to the hip. Three days later these groups were characteristically and beautifully vesicular, and on the sole there had developed two other typical groups, one of them in the instep, consisting of four vesicles, and the other, also of four vesicles, behind the ball of the great toe. All these groups were strung along the distribution of the peroneus. They were undoubtedly the eruption of herpes zoster. The eruption pursued the usual course, and in two weeks the skin had assumed its normal appearance. The pain endured longer, and for some time the left lower extremity was very sensitive to cold.

Zoster below the knee is very rare, and zoster of the foot or sole is exceedingly rare indeed, but its rarity is not the chief point that we wished to dwell on in this paper. We wish to draw attention to the long-continued neuralgia that preceded the eruption and to the mildness of the eruption. We believe the neuralgia to represent the disturbance to the nerve axis as the virus crept up the fine, accompanying, lymphatic vessels, and that the antitoxin, generated during this long journey, modified the ganglionitis that ensued when the virus attained the ganglion, and that the mild zoster eruption was an

7. Among this literature the following references are cited as of interest: Bittorf, A.: Herpes Zoster and Kidney Colic, Deutsch. med. Wchnschr., Feb. 16, 1911; abstr. THE JOURNAL A. M. A., March 25, 1911, p. 933. Kanera: Deutsch. med. Wchnschr., 1911, No. 37, p. 638. Knowles, F. C.: Pennsylvania Med. Jour., May, 1912, p. 615. Krotoszyner, M.: THE JOURNAL A. M. A. Sept. 9, 1911, p. 900. Rosenberg, E.: Kidney Colic and Herpes Zoster, Deutsch. med. Wchnschr., April 27, 1911; abstr. THE JOURNAL A. M. A., June 30, 1911, p. 1694. Stein, J.: Prag. med. Wchnschr., 1911, xxxvi, 330. Taylor, F.: Guy's Hospital Reports, London, 1896, iii, 37.

8. Rosenbaum: Deutsch. med. Wchnschr., June 15, 1911, No. 24.

1. Hoffmann, Erich, and Friebœs, W.: Histopathologie des Herpes Zoster, Arch. f. Derm. u. Syph., May, 1912, cxiii, 443.

indication of the mildness of this ganglionitis. In fact, we believe that many of these cases of centripetal zoster infections never give rise to the zoster eruptions at all, but only to neuralgia. The fact that these infections are never diagnosed as zoster unless the eruption occurs we believe to be one of the reasons why herpes zoster is so rare on the lower extremities. The infections are either cut short by their self-limitation before they arrive at the ganglion or, even if they do arrive, the ganglionitis is too slight to give rise to the characteristic trophoneurotic eruption.

The preceding ran a classic, uncomplicated course as a zoster of a spinal nerve, and differed from the ordinary case in no way except in its position. The following case also ran a classic course for zoster of the first branch of the trigeminus. The only unusual features about it were paralysis of a motor nerve and a subsequent glaucoma. Even the paralysis, as we shall see later, is a well known association, and the consideration of the glaucoma in its relationship with zoster must be deferred to another paper.

CASE 2.—H. H., aged 51, noticed an eruption on the forehead on May 26, 1912, which on June 1, when he sought relief, consisted of red blotches occupying the area supplied by the supra-orbital branch of the left ophthalmic nerve. It was sharply limited at the median line of the forehead, and extended back to the vertex and down into the left temporal region. The left preauricular, submaxillary and some of the cervical lymph-nodes were swollen. The left eye was watery and a little sensitive to light. Pain had not preceded the eruption, but it was now present, and was increasing in severity. At this time, however, neither the character of the pain nor the appearance of the eruption portended a severe zoster. Two days later the eruption had extended down the left side of the nose, and thereafter was characteristically erythematopapular and vesicular throughout. Severe sticking pain and intense discomfort developed, and the whole picture indicated an intense neuritis and ganglionitis. For relief opiates were required. The vesicles were seated on a deep inflammatory base, and on breaking developed into steep-edged ulcers that healed by scarring. These deep, steep-edged, flat-bottomed scars were most thickly strewn on the forehead, but were not entirely confined to this situation, as there was later found conjunctival scarring, and scars also supervened on the left side of the nose.

June 22 the patient was unable to lift the left upper eyelid, and when the lids were forced open the swollen, injected conjunctiva bulged out into the palpebral slit. This caused excruciating pain. Two weeks later it was possible to raise the eyelid slightly, evidently by the action of the occipito-frontalis muscle. Two months after the onset the patient was referred to Dr. K. Pischel. His examination showed the presence of fine maculae corneae as the result of small erosions, which alone sufficiently explained the continued soreness of the lids and the sensitiveness to light. The left pupil reacted slightly to light, but the photophobia still prevented sight tests being made. Pain was still present, but the general condition of the patient was greatly improved. He was still unable to raise the eyelid except with the aid of the occipito-frontalis muscle. August 8 the patient was able to lift the eyelid quite perceptibly showing a definite return of function of the levator palpebrae superioris. He still complained of neuralgic pains, and a feeling of pressure at a point over the parietal bone on the left side. There was another sensitive point to the left of the nose tip, and one about the middle of the external surface of the nose, and one on a line between the nose and cheek. He also complained of some sensitiveness within the left nostril.

This patient's troubles were not, however, by any means finished. Dec. 24, 1912, he developed glaucoma and a superficial corneal ulcer of the left eye with accompanying hypopyon that yielded, under Dr. Pischel's management, to paracentesis.

In this instance of zoster there was involvement of both a sensory and a motor nerve. The sensory nerve involved supplies the conjunctiva and one of the branches of the motor nerve involved supplies the levator palpebrae. A neurotropic virus entering the conjunctiva would easily attain the ophthalmic branch of the fifth nerve, and it would also be in close proximity to the terminal branches of the levator palpebrae superioris that here reaches far over into the lid. By running back along the sensory nerves the virus would give rise to the trophic symptoms we call zoster, and by running back along the motor nerve and influencing its motor center the paralysis is also rationally explained.

The idea that the virus may run along the nerves in zoster is not new, but the investigators whom we know to have taken this view have thought of the virus as first attaining the ganglion through the blood and then running out from the ganglion along the nerve. Hoffmann and Frieboes[1] have mentioned this as a possibility, and Hewlett, in order to explain the occasional coincident paralysis, thought that possibly the virus ran centrifugally from the ganglion along the sensory nerve and then through neighboring or communicating branches back up along the motor nerves to the motor center involved.[2]

The question of the proximity of the nerve terminals to the surface is a most interesting one in zoster. The sensory nerve terminals from their very nature lie near the surface, and therefore we have more zoster infections of these than of the motor nerves, that lie deeper. Some motor nerve terminals, however, such as those supplying the muscles moving the eyeball and the muscles of the face lie almost as near the surface as the sensory nerve terminals, and these muscles, supplied by these superficially situated motor nerves, are the very ones most subject to paralysis in zoster. In Hunt's statistics of 158 cases of paralysis accompanying zoster, twenty-four were of the ocular muscles and eighty were of muscles supplied by the facial nerve.[3] That is to say, 64.82 per cent. of all the paralyses, as collected by Hunt, were of these two sets of superficially situated motor nerves.

The severity of the trophic disturbances accompanying zoster of the ophthalmic branch of the fifth nerve is well known; so well known, in fact, that a unilateral grouped scarring of the forehead leads an experienced clinician to infer immediately that it is from zoster. Scarring is less frequent in the region supplied by the superior maxillary branch, and we have never seen it of the inferior maxillary branch. That destructive panophthalmitis is not also a frequent consequence in zoster of the ophthalmic branch of the fifth nerve is probably due to the fact that the ciliary ganglion, not the gasserian ganglion, is the trophic center for the interior of the eye. The probable reason for the severity of the inflammation of the gasserian ganglion and the corresponding severity of the trophic disturbances lies in the short distance the virus has to travel in order to reach it. In this short distance not enough antitoxin is produced to mitigate the severity of the ganglionitis, and in this respect there is a marked contrast between zoster of the leg and foot, in which the virus has to make such a long journey before reaching the ganglion, and zoster of the ophthalmic branch of the trigeminus, in which the distance to the ganglion is so much shorter.

2. Hewlett, Albion Walter: Motor Complications of Herpes Zoster, California State Jour. Med., April, 1906.
3. Hunt, J. Ramsay: The Paralytic Complications of Herpes Zoster of the Cephalic Extremity, THE JOURNAL A. M. A., Oct. 30, 1910, p. 1456.

In comparing herpes zoster of the lower extremity with that of the trigeminus we find that the latter is much more frequent, its trophic manifestations are much more severe and, as we have seen, it is much more liable to be accompanied by paralysis of the muscles of the affected region. These differences are best explained by considering herpes zoster a centripetal disease. In the two cases here reported as direct contrasts, there was in the one involving the lower extremity a long-continued pre-eruptive neuralgia which we also regard as further evidence of the truth of our hypothesis.

Besides these contrasts in the comportment of zoster of these two regions one of the most striking peculiarities of the disease, wherever it occurs, is its unilaterality, and comprehension of the mechanism of this characteristic is also facilitated by the same theory. Admitting, for example, that the virus may infect both conjunctivae simultaneously, yet in one it is almost sure to find a readier entrance into the nerve terminals than in the other, and the more fortunate infection will succeed in attaining the ganglion first, and therefore will cause the characteristic eruption before the other has time to develop.

That the virus travels from the periphery toward the center seems to us to furnish the only reasonable explanation of the clinical facts enumerated above. The question of the primary lesion, the door of entrance of the virus, then arises. There are on the skin, and mucous membranes of the eye, nose, and mouth many opportunities for a virus to enter. The primary lesion may be insignificant and, from the very nature of the disease, may be long healed over by the time the trophic symptoms occur that we are used to considering as the entire phenomena of the disease. This disappearance of the primary lesion before the main phenomena of the disease appear is not limited to zoster.

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TREATMENT OF SUPERFICIAL NEW GROWTHS BY PURE RADIUM BROMID

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Until the cause of cancer is discovered and a better remedy for it is found, the discriminating practitioner will employ the best means at his disposal, according to the case to be treated, whether it be operation, caustics, x-rays, or some form of radio-activity. No one of these is adapted to all patients, nor always to all stages of the disease in the same patient. Surgery is necessary under some conditions and the roentgen-ray, or the much safer radium, is preferable under others. Our object now, however, is to draw the attention of the profession in this country to the beneficent results obtained from radium in private practice and at the radium clinic (which was started in 1903 at the Boston City Hospital) when this remedy is employed in suitable cases of skin cancer and in sufficient amount and strength. Experience is, of course, necessary. Without it there is danger of doing harm or failing to do good through lack of knowledge.

In the early days of its use the healing action of radium on superficial or other forms of cancer was doubted by many, and not unnaturally, as it seemed almost miraculous that it should have any power over a disease for which the chief remedy had been the knife, an admission in a way that there was no remedy. Later many accepted the fact that radium was temporarily efficient in some of the superficial cancers, but they questioned the permanency of the results obtained.

TABLE 1.—RESULTS, JAN. 1, 1911, IN 181 CASES OF SKIN CANCER IN WHICH THE TREATMENT WAS BEGUN BEFORE DEC. 31, 1909

Site	Total	Healed	Not Healed	Under Treatment	Discon. Treatment
Lip	23	19	1	0	3
Eyelid	19	13	0	1	5*
Nose	45	40	2†	1	2
Face	68	59	4	1	4‡
Ear	8	6	0	0	2
Neck	4	4	0	0	0
Hand	6	6	0	0	0
Inside lower lip	1	1	0	0	0
Auditory canal	1	1	0	0	0
Scalp	3	3	0	0	0
Nose and orbit	1	1	0	0	0
Nose, cheek and breast	1	1	0	0	0
Nose, lip and ear	1	0	0	0	1
	181	154	7	3	17§

* In one case treatment was continued so long without healing that operation was advised and done.
† One patient not healed by x-rays or radium. Attendance too irregular.
‡ One patient died of "acute indigestion" while under treatment.
§ Of the seventeen who discontinued treatment, nine were improving.

TABLE 2.—DURATION OF HEALING OF 154 CASES ON JAN. 1, 1911

Years	Number Healed	Number Recurred	Number Died	Total
Less than 1	21	..	..	...
1-2	47	..	..	...
2-3	19	..	..	...
3-4	18	..	..	...
4-5	3	..	..	...
5-6	20	..	..	...
6-7	4	..	..	...
7 or more	3	..	..	...
	135	16	3	154

Table 1 and illustrative cases show that if patients come early for treatment most of the superficial skin cancers will heal under radium. The permanency of the results is indicated in Table 2.

The cases of skin cancer here presented are consecutive, with the exception of five which have been omitted because they were beyond the reach of any remedy, and for which radium was used as a palliative only. The ages of the patients varied from 24 to 91 years.

Of the sixteen patients among whom there were recurrences, one died of another disease during treatment, two healed under further treatment, six were under treatment, three discontinued treatment, three were advised to have operation, and one delayed coming for further treatment until it was too late for radium to be of service. The three deaths occurred prior to January 1, 1911, from some other disease. In three of the 154 cases it was necessary to resort to an operation following the radium treatment; on the other hand, there were fifteen cases in which operation failed and after which radium was successfully employed, and several of these had had more than one operation.

* Papers have been presented on this subject from time to time, and articles published, as follows: Williams, F. H.: Some of the Physical Properties and Medical Uses of Radium Salts; with Report of Forty-Two Cases, Treated by Pure Radium Bromid (read at the meeting of the Boston Society of Medical Sciences, Dec. 15, 1903), Med. News, New York, Feb. 6, 1904; A Comparison Between the Medical Uses of the X-Rays and the Rays from the Salts of Radium (read at the annual meeting of the Boston Society for Medical Improvement, Jan. 18, 1904), Boston Med. and Surg. Jour., Feb. 25, 1904; Use of Radium in Some Diseases of the Eye, Boston Med. and Surg. Jour., May 26, 1904; Early Treatment of Some Superficial Cancers, Especially Epitheliomas, by Pure Radium Bromid rather than Operation or X-Rays (presented, with a demonstration of more than twenty patients, at the Surgical Section of the Massachusetts Medical Society, June 9, 1908), Medical Communications of the Massachusetts Med. Soc., 1908, xxi, 261, and THE JOURNAL A. M. A., Sept. 12, 1908, p. 894.

The cases given in the tables do not show the best results that could be obtained by radium if only those most adapted to its use had been chosen. January 1, 1913, an attempt was made to get reports from these patients, but they were so scattered that it was not possible to get a sufficient number to make it advisable to change this table. So far as obtained, the reports were very favorable.

It would make this paper too long to give the record of all these patients, therefore it has seemed better to give illustrative cases, which naturally fall into groups. Some of these cases are not included in the tables, as they came for treatment after Jan. 1, 1911.

GROUP I

CASE 1.—Mr. F., aged 49. Characteristic epithelioma on mucous membrane of lower lip, 1 cm. by 1.5 cm., a raised ulcerated surface with induration 1 cm. deep. Healed in four weeks with ten applications of radium. The induration began to diminish three days after the first application. The ulceration promptly became less indolent, and after five applications a narrow, slightly contracted circle of healed scar tissue began to appear around the edge, and the induration had disappeared. Still healed Jan. 1, 1913, five years later.

CASE 2.—Mr. M., aged 56. Epithelioma on mucous membrane of lower lip, 1 cm. by 3.5 cm. Healed in one month with seven applications of radium. Still healed, Jan. 1, 1913, five years later.

Effects of radium treatment in some small skin cancers.

GROUP I.—Small epitheliomas which had not been operated on or treated by caustics or x-rays, in which the glands were not implicated, and for which radium was the only treatment.

GROUP II.—New growths about the eye, the site of which made operation difficult, as it might be a serious matter to remove any considerable portion of the lid.

GROUP III.—Cases for which other treatment, such as operation, x-rays, caustics, iodin, etc., had been resorted to first, and therefore treatment by radium usually extended over a longer period than in Group I, in some cases success being reached only after very persistent treatment.

GROUP IV.—Cases in which epithelioma was too deep to be classed as superficial and too extensive to give radium its best opportunity, but for which other treatment had failed or the site made operation undesirable.

GROUP V.—Cases in which no treatment could bring about healing and for which radium was used simply to retard the growth or to keep the patient from the blank and impassable wall of hopelessness to shorten the period of despair.

CASE 3.—Mr. G., aged 65. Epithelioma of nose, 1 cm. in diameter, of from two or three years' duration. Healed after five applications. Still healed, Jan. 1, 1913, five years later.

CASE 4.—Mr. L., aged 68. Epithelioma on mucous membrane of left side of lip, of from three to four years' duration. Healed after three applications. Died as the result of an accident at sea.

CASE 5.—Miss W., aged 70. Epithelioma of forehead. Ulceration about 4 cm. in diameter, in part covered by a crust. Healed in three months with fourteen applications. Remained healed up to the time of her death, one and one-half years later.

GROUP II

CASE 6.—Mr. D., aged 50. Epithelioma, 1 cm. in diameter, above inner canthus of left eye. Improvement was continuous from the beginning of radium treatment. No pain or irritation. Healed in seven weeks with eleven applications. Still healed, Jan. 1, 1913, five years later.

CASE 7.—Mr. McL. Epithelioma of lower lid of right eye, 1 cm. long, raised. Operation in 1909; recurrence in six weeks. Healed after fifteen applications of radium. Still healed, Jan. 1, 1913, three years later. (Not included in the table.)

CASE 8.—Miss B., aged about 50. New growth on the upper lid, which measured 1 cm. horizontally and 1.5 cm. vertically. This was indurated and raised above the surface about 2 mm. The growth had begun six years previously, then grew more rapidly, and was operated on. Just two months after the operation it returned and was larger than it had been at any time. This has improved promptly under radium, and disappeared after thirteen applications. (Not included in the table.)

GROUP III

CASE 9.—Mr. T. Growth on the cheek which was operated on, but recurred in six months and grew rapidly. It was then treated with caustics twice and healed in the center, leaving blisters outside, but recurred again in four or five weeks, and began to discharge and again grew rapidly until it was 2 cm. in diameter. Further operation was advised and the patient was told that it must be extensive and would cause paralysis on that side of the face. He declined operation, was treated by radium and the growth disappeared. This patient also had two new growths on the other side of the face, one about 6 mm. and the other about 12 mm. in diameter, which had not been treated in any way, and these yielded to radium in twelve applications. (Not included in the table.)

CASE 10.—Mr. F., aged 45. Indurated area 1.5 cm. wide and 1.5 cm. long, beginning at the outer canthus of the eye and extending on to the temple and cheek. Central portion covered with a crust. Eleven years previously he broke the skin near the outer portion of the left eye, had erysipelas, and there was an area which did not heal well. Operation was done and since then he has had various kinds of treatment—x-rays, electric needle, etc.—for one and one-half years, but no treatment for the past six months. This promptly began to heal under radium and has now only a very small spot of induration left. (Not included in the table.)

GROUP IV

CASE 11.—Mr. R., aged 86. Growth on the back of the hand near the wrist, which had been operated on twice and recurred twice. When first seen it was a raised, granulating surface, about 4 cm. in diameter, with an indurated base of larger area. The case did not seem to be a very encouraging one for radium treatment, and had not operation failed twice, this remedy would not then have been considered for a moment, but under the circumstances there seemed nothing else to be done. It proved most satisfactory; the induration disappeared, healing took place, and remained permanent up to the death of the patient from old age, a year and a half later.

CASE 12.—Miss G., aged 83. Epithelioma of face, which she thinks began forty years ago. It had grown rapidly of late, involved the left cheek, and so much of the upper lip on that side that only a narrow strip remained and it seemed as if in a few days this might ulcerate across and leave the ends hanging. The diseased area, exposing a considerable portion of bones in the central deeper portion was a disagreeable ulcerating surface, so large that it seemed hopeless to attempt to treat it by radium, but the patient was unwilling to have operation, which would necessarily have been very extensive if it had, under the circumstances, been advisable. Under radium the ulceration has nearly healed and the edges of the large opening have puckered together, as if drawn by a purse-string, so that the upper lip is now perfectly presentable, and the opening above, between the cheek and the nose, so small and the former hideous appearance so improved that the patient would not be disturbing to others. This case is not included in the table, but is mentioned as being a good example of this group. She is still under treatment. The epithelioma has not yet wholly healed, but the patient is no longer in a pitiable condition or shocking in appearance, and the outlook is now favorable.

The tables and illustrative cases demonstrate the efficiency of a proper quantity of pure radium bromid for superficial skin cancers, especially in the early stages, both as to healing and permanency of results, when it is the first and only treatment employed, and its usefulness even when handicapped by being employed after a recurrence following operation or operations, or after the use of caustics or the x-rays.

For the treatment of these cases 120 mg. of pure radium bromid have been at our disposal and more than 20 gm. of weaker preparations but, as a rule, 50 mg. of pure radium bromid in a capsule with a mica cover, placed in a lead container with a long handle have been employed. From the beginning screens or filters of aluminum of varying thickness have been used when it was desirable to absorb some of the less penetrating rays in order that they might not reach the patient. Not more than two applications should be made a week, and the duration may vary from one or two to ten minutes, according to the extent and depth of the disease, the radium being moved about so that all parts are reached. In some cases the time of application may be extended to half an hour or even more, if the area is of considerable size, but, of course, this does not apply to the early cases. It is very difficult to state how many applications will be necessary in a given case. Now and then two or three are sufficient, but more frequently ten to fifteen are required, and sometimes twenty or more; but when patients learn to come early the latter numbers can probably be reduced. A more vigorous use of radium, that is, the lengthening of each treatment, would also lessen the number required, but this might involve the risk of over-exposure. We have preferred to feel our way with the safer method. In short, no definite rules as to duration and number of applications can be laid down to cover all cases; experience and judgment are the best guides. As with other efficient remedies, success may follow the use of radium in the hands of one practitioner and failure in those of another.

Improvement usually takes place after two or three applications of radium, thus indicating that the treatment is likely to be successful. The initial improvement may consist simply in the arrest of the growth and in signs of drying up, or in a freer discharge. If there has been discomfort or pain, it is usually relieved by the radium, and sometimes within an hour or two. Also, in some cases there is striking improvement in the patient's general condition. If radium as an initial remedy, in sufficient quantity and suitably employed, does not bring about marked improvement within three or four weeks, it would, as a rule, be better to choose some other method, but this is seldom necessary if the case is at all a proper one for treatment by radium. If, however, this remedy is unsuccessful, the delay thus caused is not sufficient to be detrimental to the patient. When radium is used after recurrence following operation, or other treatment, a longer time is usually required to cause a disappearance of the new growth than when it is the primary remedy. Rapidly growing and discharging new growths respond to radium more quickly than those of an indolent type. If one of the latter kind is healing very slowly, a different treatment may be considered, but if the cosmetic effects are in question or an operation has been done and a recurrence taken place, persistence with radium may be wiser.

In cases which do not yield to radium it is well to bear in mind that the disease may be of syphilitic origin and to try specific treatment.

V. 6
1913

If a patient is otherwise diseased, or is of low vitality, radium is handicapped. Failure in the following case may have been due to the kidney trouble, or because the radium was not used with sufficient vigor.

CASE 13.—Mr. J., aged 58. Epithelioma of the lip of two years' duration (not included in the table). Patient suffering from a serious kidney trouble and warned that under these circumstances radium might not be successful. Treatment by this remedy at first brought about some improvement, but it came more slowly than is usual in ordinary cases and when, after continued treatment, the growth did not heal, operation was advised and done. It is too soon to say what the result of the operation will be.

Those who have been operated on for cancer, even of the breast, should be seen at stated intervals, and if there is any sign of recurrence, such as spots of induration in or near the scar, they should be treated by radium, as in some cases, at least, it has been found more efficient than any other treatment we have used in checking a recurrence of this character.

Judging by the number of persons with small new growths that we have successfully treated with radium after recurrences following an operation, this remedy has the advantage in many cases. Recurrences occur after any method of treatment, but we believe less frequently after radium than after operation. Should they occur after the use of radium, experience thus far shows that, as a rule, they yield to further treatment by this remedy.

Sometimes it is feared that treating a cancer in one place may cause its appearance elsewhere, but so far as we have observed, this has not happened in any of the patients suitable for radium treatment.

LYMPH-NODES, TONGUE, MOUTH, TONSILS

When the lymph-nodes are involved, no time should be lost by using radium from the outside. For this purpose and in this way it is unsuitable. We have not had much experience with new growths in the mouth, tongue or tonsils, but so far as it has gone radium has not healed them permanently. To be of service the treatment must be begun in a very early stage, and as patients are not aware of the seriousness of the disease, they delay seeking advice until the growth has become too extensive to be materially benefited by radium.

There is no danger from radium in the hands of those who understand its use and it has a great advantage over the x-rays in that the output of its radiations is uniform in amount and quality, whereas that from an x-ray tube may be very uneven as regards both of these. This possible variability of output is one reason that injury has resulted from the use of the x-rays.

Our experience of the last nine to ten years demonstrates that radium should be used in the treatment of early skin cancers, especially if the new growth is on the eyelid, as operation might leave the patient with a lid so small or so large that it would harass him through life. The cosmetic results are excellent and the application painless. For the latter reason the patient is not led to a perhaps serious or even fatal delay, as may be the case when a dreaded operation is in question. Radium will also cause some growths to heal that are extensive and even inoperable and, while these show its power and efficiency, every endeavor, of course, should be made to prevent the occurrence of larger growths by using radium early. In the treatment of early skin cancers radium finds a great opportunity. It is important that physicians and surgeons should realize the value of this remedy. Recently one of us reported to the physician who had sent a patient for radium treatment that the growth had disappeared after two applications. The physician was gratified, as he had had misgivings in recommending radium to his patient and difficulty in getting her to consent to it after a surgeon had strongly advocated operation.

Skin lesions should not be neglected; though they may lie dormant for a time, they may on the other hand, if left untreated, lead to serious trouble by being irritated or from some other cause. Many surgeons advocate operation for any skin lesion which might even be suspected of being or becoming malignant, but as many of these small lesions heal under radium, this painless remedy should be used first. If unsuccessful and operation becomes necessary, the delay will not injure the patient.

KELOIDS

Our experience with keloids shows that radium is an excellent remedy for them if used in season. All those of moderate size which we have treated have done well, though in some cases operation and other forms of treatment had been tried first without success.

Radium is also of value in other skin diseases, such as eczema, birthmarks, warty growths, psoriasis and the like.

CONCLUSIONS

1. The application of pure radium bromid in sufficient amount, properly used, is a harmless, painless and efficient method of treating early superficial new growths. Radium is well adapted to cancers of the face, as the cosmetic results are excellent, and particularly to the eyelids, where operation may offer special difficulties and disadvantages. With proper care there is no danger to the eye.

2. Operation is still considered to-day the method of choice in early skin cancers by most practitioners, but the results obtained here and abroad show, we believe, that radium should be used first in early cases and operation reserved for such as are not readily controlled by it.

3. Radium is more successful when it is the first treatment employed than when it is used after operation, x-rays, or other forms of treatment, although even under these circumstances it does well.

4. The number of treatments required in some cases is from two or three to ten, while in others more than twenty are needed. Improvement usually takes place after two or three applications of the radium.

5. Many people dread the knife, even for a simple operation, and fearing surgical interference will be advised, delay coming for treatment, thus lessening the chances of recovery. Radium is free from dread, as its action is painless.

6. The analgesic action of radium is noteworthy.

7. For keloids, unless extensive, radium is by far the best treatment known to us.

8. Where radium is obtainable, it would be well to use it for skin lesions of small area which do not heal readily under simple applications.

9. All powerful remedies have dangers, but they can be avoided if care is taken. During the seventeen years the x-rays have been used at the Boston City Hospital no patient has been burned, nor have any untoward results occurred in about ten years during which radium has been employed there.

505 Beacon Street.

A METHOD OF BONE-PLATING *

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A study of the work of Mr. Lane and his followers and a comparison of it with that of Lambotte[1] and his followers, will convince one that the last word has not been said on retaining the fragments in the operative treatment of fractures.

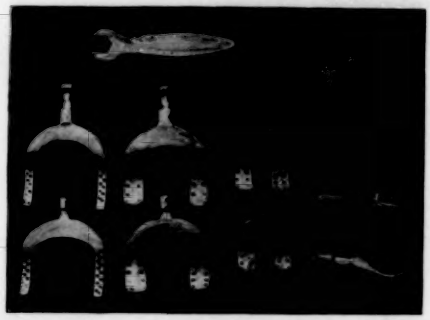

Fig. 1.—Clamp for holding bone fragments in position while plate is applied. It is purposely designed not to hold the plate under the clamp.

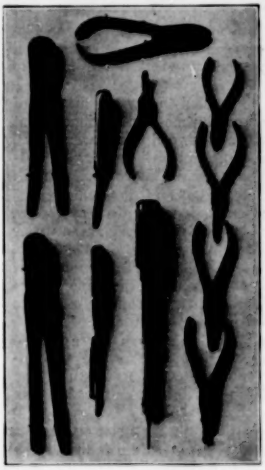

Fig. 2.—Tools purchased in the hardware store used in experimental bone plating and also in a number of cases at the operating-table.

While I cannot claim an extended experience, the cases in which I have operated have impressed me with two points: first, the necessity of providing myself at all times with as full an assortment of plates as if I had a large accident clinic, and second, the fact that the ordinary plates have too much bulk and are too heavy.

In support of the latter statement I quote the following sentence from Mr. Lane:[2] "The chief obstacle that has to be overcome in many cases is the approximation of the skin incision and their retention in accurate apposition."

I venture to present a plan of bone-plating which is new so far as I know. I have not yet had sufficient experience to present conclusions but offer it as a suggestion for trial.

In dealing with fractures the object to be attained is correct apposition. This includes several important points. The normal length and correct contour must be maintained. Fragments may have to be held in position and the companion bone or the neighboring joint may have to be dealt with. It may be fairly assumed that no one plan is equally well adapted to all cases and that any plan may have to be modified to meet the requirements of each case.

Proper tools have not yet been developed. Most of those on the market are altogether too heavy and cumbersome for rapid and accurate work. Awkward and unwieldy instruments interfere with asepsis. We need to study the clockmaker, the locksmith and the cabinetmaker and their equipments. Either might make a better "bone surgeon" than the average general surgeon had he the aseptic technic. Unfortunately for the mechanics of the work, asepsis is of first importance.

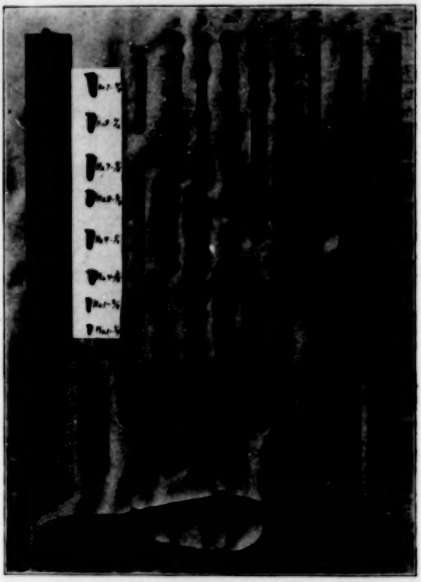

Fig. 3.—Lane's plates and screws of various sizes and steel ribbon proposed. Nos. 1 to 10, Lane's plates in various sizes. No. 5 to No. 7 screws used for Lane's plates. No. 1 and No. 4, screws in two sizes, ¼-inch and ⅜-inch. A, B, C, D, steel ribbon in two sizes punched for No. 1 and No. 4 screws. A and B are ⅛-inch wide and 1/128-inch thick; C and D are ⅜-inch wide and 1/64-inch thick. A-1, B-1, C-1, D-1, plates made at operating-table from steel ribbon. E, shears for cutting steel ribbon.

Every operator has experienced difficulty in retaining the fragments in proper apposition while the plate is being applied. In order to overcome this difficulty the bone-holding clamp illustrated in Figure 1 was devised. It consists of several pairs of blades, each blade having two fingers. These are of several sizes and widths according to the bone to be plated as well as the size and shape of the bone at the site of the fracture. The

* Read at the Twenty-Second Annual Meeting of the Western Surgical Association at Cincinnati, Dec. 21, 1912.

1. Lambotte: L'Intervention opératoire dans les fractures, Lamertin, Brussels, 1907, p. 45.

2. Lane: Lancet, London, Nov. 4, 1911, clxxxi, No. 4601.

blades are freely movable in the handle and adjust themselves to the contour of the bone. It is purposely designed not to hold the plates under the clamp but to permit the application of the plates between the blades of the clamp. Ample room has been left for this purpose.

Many of the instruments on the market for bone-plating are poorly adapted to the work. I have had far more satisfaction with certain tools which I have purchased in the shops. Some of these are illustrated in Figure 2. All have been used both at the operating-table and in experimental bone-plating, and they suggest needed modifications in our armamentarium. These consist of two pairs of plumbers' pliers, which make excellent bone-holding forceps; two locksmiths' screw-drivers, one with a screw-holding device; one Yankee drill which can be worked quickly and accurately with one hand; five pairs of small machinists' pliers, which are useful for many purposes, including adapting the plates to the contour of the bone, removing spiculae and holding small bones and fragments; and a locksmith's metal shears used at the operating-table for making the plate the desired length or shape. These tools could be improved by an instrument-maker but should not be modified so as to lose their mechanical adaptability.

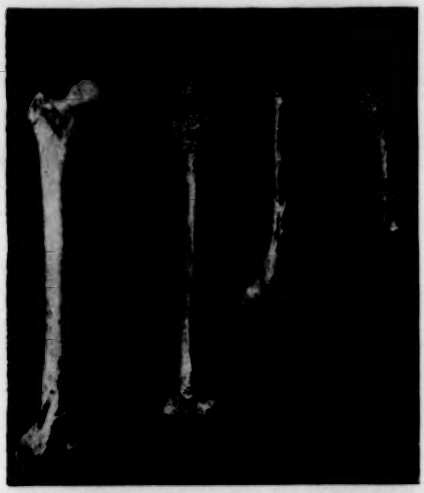

Fig. 4.—Front view. Illustrations of experiments in contour bone-plating with steel ribbon ¼-inch wide and 1/128-inch thick, carrying No. 1 ¼-inch screws

I cannot subscribe to the dictum of Lane[3] that "In the vast majority of cases I prefer to use as long and as strong a steel plate as possible, carrying as many screws as space permits."

The average plate sold in the shops is altogether too bulky, being made to depend on its bending or breaking strength for success. After a certain point the strength of the plate is only what the screw will hold in the bone. The bones are a system of supporting levers with reinforcement at the points of strain and are not designed to depend simply on their bending or breaking strength. The plating of a fracture, which is only a temporary device, should be done on the same plan, and should have the least bulk consistent with providing the support and meeting the strain required during the period of healing. The plan I suggest might be called "contour" plating in contradistinction to direct plating, which relies on the breaking strength of the plate. If the plate is applied in the direction of the strain by which the fragments are likely to be displaced a light plate and screw can be used.

In trying to carry out this principle I have used untempered clock-spring steel of various thicknesses and widths. Tentatively I have adopted two sizes. These metal strips are illustrated in Figure 3 and may be compared with the Lane plates which are generally used for the same purpose. The ruler at the side of the illustration gives the reader the comparative length and size. *A*, *B*, *C* and *D* illustrate the strips of steel ribbon that I use. The first (*A*) is a steel ribbon ¼ inch in width, 1/128 inch thick and 12 inches long with holes for No. 1 screws placed ½ inch from center to center. The second (*B*) is of the same dimensions, but is punched with holes for No. 4 screws placed as in *A*. The third (*C*) is a steel ribbon ⅜ inch wide, 1/64 inch thick and 12 inches long, punched with a double row of holes for No. 1 screws placed likewise ½ inch from center to center. The two rows of holes in this strip are 3/16 of an inch apart. This strip provides for a large number of small screws where the bone is fragile or fragmentary. The fourth strip (*D*) is of the same length and breadth and thickness as the third but has holes for one row of No. 4 screws placed as in the others, ½ inch from center to center. It is important to have all the holes exactly the same distance apart so that in special cases several

Fig. 5.—Fragments separated. Illustrations of experiments in contour bone-plating with steel ribbon ¼-inch wide and 1/128-inch thick, carrying No. 1 ¼-inch screws.

3. Lane: Lancet, London, June 12, 1909.

thicknesses of plate may be used, although in actual work at the operating-table I have rarely found this necessary. I use only two numbers and two lengths of screws, namely, No. 1 screws ¼ inch long and ⅜ inch long, and No. 4 screws of same lengths. These two sizes and lengths I find ample for all cases. The metal shears (*E*) are used for cutting the strips in any desired length. This is done at the operating-table. Plates prepared in this way are illustrated by *A*-1, *B*-1, *C*-1 and *D*-1 (Fig. 3).

The advantages which suggest themselves for this method are that plates may be adapted to accurately fit any contour at the operating-table and that these may be made as long or as thick as may be desired. Usually the narrowest and thinnest plates placed on both sides of the bone in a direction to meet the greatest strain which will be applied by muscular action will meet every indication.

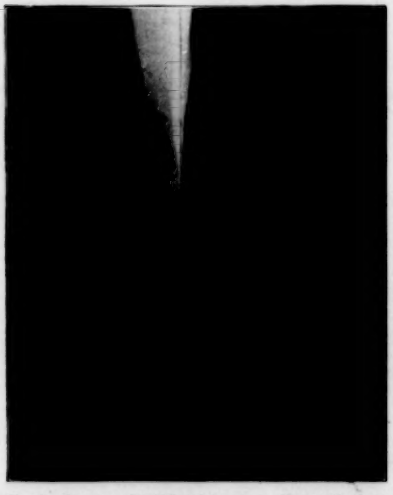

Fig. 6.—Fracture of middle of humerus. Man aged 40 years. Retained by two ¼-inch ribbon plates, 1/128-inch thick with No. 1 screws ¼-inch long.

Before applying this plan at the operating-table I made numerous experiments on various bones to test the strength of these bits of steel ribbon put on with the small screws. A few of these are illustrated by several artificial fractures in the human femur and two tibiae and a sheep's femur as shown in Figures 4 and 5. The two pictures show the front and sides of each bone and, finally, the separated fragments. These were selected to show the ribbon plates in several positions and directions according to contour and position. The sheep's femur was used to test the strength of No. 1 screws in fresh bone. These illustrations show what is meant by contour plating in contradistinction to direct plating as practiced by Lane and others. If one can judge by the force which these bones will withstand the thin plate would seem to be sufficient. The real strength is in the screws and if one plate is placed opposite another, or a single plate in a position and direction to meet the strain, instead of a bending strain there is a pull put on the plate. In other words, we follow the principle of the lever and can secure from one or more narrow thin steel ribbons more strength than from twenty times the weight of steel in one large plate so placed as to depend on its bending or breaking strength. The plan is especially adapted to torsion fractures in which the ribbon can be so placed as to overcome the

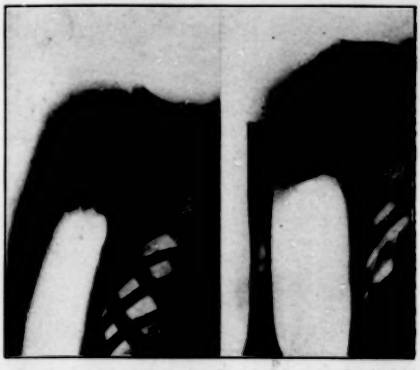

Fig. 7.—Fracture of humerus. Boy aged 6 years. Retained by ¼-inch steel ribbon and ⅛-inch No. 1 screws. Note length of screws in the bone.

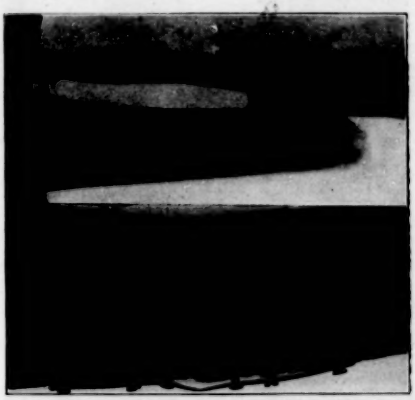

Fig. 8.—Compound fracture of tibia. Man aged 64 years. Retained by two ¼-inch steel ribbons and ¼-inch and ⅝-inch No. 4 screws.

twisting strain. In this way the screw is enabled to give a maximum of efficiency, or rather we make a small screw and a light plate furnish more strength than a heavy plate and a large screw would furnish under direct strain.

The smallest plate sold in the market is three to six times as thick as the thin steel ribbon here shown; the heaviest is twenty times as thick and the screws are in proportion. It is useless to have the screws extend

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beyond the dense bone. Most of those used in plating are too long. The dense screw-holding bone is rarely found more than ¼ inch thick and it will not average more than ⅛ inch.

I have selected a few illustrations from cases in which I have recently used the ribbon plates at the operating-table. The legends under Figures 6, 7 and 8 explain sufficiently actual cases of fracture in which the steel ribbon plate has been applied at the operating-table as described in the first part of this paper.

SUMMARY

By using these thin steel ribbons the space for the accumulation of blood and serum is comparatively small and infection less likely; the periosteum can be more nearly approximated; the remaining foreign body is from three to ten times less; the fascia and skin can be carefully approximated without the least difficulty.

AN OPERATION FOR VENTROSUSPENSION BY THE ROUND LIGAMENTS

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The most widely practiced operation for the cure of retroflexion and retroversion of the uterus is Olshausen's ventrosuspension by the round ligaments. This procedure has been found satisfactory in many hundreds of instances and may be termed the standard operation for the condition under consideration. From time to time, nevertheless, cases have been described in which acute intestinal obstruction has resulted from the bands that are the direct outcome of Olshausen's operation.[1] Indeed, the originator of the method has himself reported such an instance; it is surprising that intestinal obstruction has not been more frequently encountered or, perhaps, more frequently recorded. There are two additional objections to Olshausen's procedure: (1) It has been followed by recurrence of the malposition of the uterus in a few instances because the bands became excessively elongated; (2) the deep epigastric vessels have been injured during the operation (when the suspension suture traverses the abdominal wall). The chief objection to the operation in my mind, however, is that the deliberate construction of an intra-abdominal band is an unsurgical principle both in theory and in practice. I believe that this objection is obviated by the following technic:

After the abdomen has been opened through the usual median incision and the necessary treatment of the pelvic organs has been carried out, the uterus is grasped and is held at whatever level one desires to suspend it. The region in which one round ligament leaves the abdominal cavity is exposed by retracting upward on that side of the wound. A catgut suture is then begun at the internal abdominal ring by passing the needle through the ligament and the adjoining parietal peritoneum. The suture is continued by alternately grasping the round ligament and the parietal peritoneum, with the overlying transversalis fascia. The suture is continued to within a short distance of the uterine horn and is here ended. The needle should take broad grasps of both the round ligament and the parietal peritoneum, with adjoining transversalis fascia, as illustrated in the diagram. To avoid atrophy it is essential that the suture pass through and not around the round ligament. After the suspension of one round ligament has been completed, the opposite side is treated in the same manner. The abdominal wound is closed in the usual way, the parietal peritoneum being preferably sutured by the everting stitch suggested by S. Wiener and myself in order to avoid omental adhesions.[2]

This operation has been performed in only a few instances and has been found simple of execution. It was first carried out about four years ago; the patient was recently examined and presented a movable uterus in good anterior position. A second patient passed through a normal pregnancy following the operation and subsequent examination demonstrated that the uterus remained in the anterior position. Another patient was subjected to a laparotomy for a different abdominal condition ten months following ventrosuspension by the above-described technic and occasion was taken to examine the field. The uterus was found in normal position and freely movable. On each side (the left side could be more thoroughly inspected) the round ligament was suspended from the anterior abdominal wall by a narrow sheet, averaging one quarter inch of peritoneum, in which gaps were not to be found. The round ligaments were quite normal in appearance.

Fig. 1.—Diagram to illustrate the method of passing the suspension sutures.

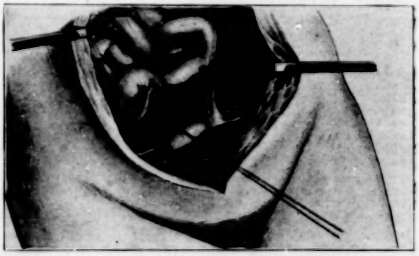

Fig. 2.—Illustration of the operation of suspension by the round ligaments made from a cadaver. The suture is incorrectly shown; it should be passed through and not around the ligament.

The advantages that have been claimed for this method of ventrosuspension would appear to warrant a more extended application of the technic in order to determine whether or not these claims are justified.

1275 Madison Avenue.

1. Some case reports are to be found in Treves' monograph on Intestinal Obstruction; Veit's Handbuch der Gynäkologie, Vol. I; and Guggisberg: Incarceration of the Intestine after Ventrofixation of the Uterus, Zentralbl. f. Gynäk., Sept. 24, 1910, p. 1257.

2. Neuhof, H., and Wiener, S.: Experiments on Omental Adhesions, Surg., Gynec. and Obst., April, 1910.

Special Articles

TYPHOID IN THE LARGE CITIES OF THE UNITED STATES

There were fifty cities of over 100,000 population in the United States in 1910. Over 22 per cent. of the whole population of the country lives in these cities and in addition a large suburban and satellite population is influenced by the health conditions of the neighboring metropolis. It is safe to say that more than one quarter of the population of this country is directly concerned in the prevalence of typhoid fever in our large cities. Since the modes of causation and methods of prevention of typhoid are better understood than is the case with some other infectious diseases, it has seemed worth while to present facts showing the actual conditions together with data indicating the recent trend in the typhoid death-rate.

The large cities may be divided conveniently into five groups:

1. Eight cities with a population over 500,000.
2. Ten with a population from 300,000 to 500,000.
3. Ten from 200,000 to 300,000.
4. Twelve from 125,000 to 200,000.
5. Eleven[1] from 100,000 to 125,000.

The data may be presented in tabular form. In compiling and calculating the figures for these tables, city records of deaths have been used, and the population has been estimated by the arithmetical method used by the Census Bureau.

TABLE 1.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 1 (POPULATION OVER 500,000)*

	Deaths from Typhoid per 100,000 Population 1912	1911	Average 1906-1910
Cleveland	5.9	14.7	16.5 (5)
Chicago	7.5	10.8	15.5 (2)
Boston	8.1	9.3	16.0 (3)
New York	9.8	11.1	13.8 (1)
St. Louis	10.4	15.4	16.1 (4)
Philadelphia	12.5	14.1	42.1 (7)
Pittsburgh	12.7	25.8	74.3 (8)
Baltimore	23.9	27.2	34.6 (6)

* The figures in parentheses in the last column of this and the following tables give the relative standings in death-rate, 1906-1910, of the cities in the group.

The most striking fact with respect to the group of our eight largest cities (Table 1) is the great reduction that has occurred in the typhoid rate in Philadelphia and Pittsburgh. Both of these cities, as is well known, have recently installed sand filters for their water-supplies, and the low typhoid rates in 1911 and 1912 as compared with preceding years must be attributed chiefly to the diminution in the amount of water-borne typhoid. Part of Pittsburgh (the north side) is not yet supplied with filtered water. In the "Pittsburgh filtered-water district," with a population of about 410,000, the typhoid rate in 1912 was only 5.9. The case of Cleveland is also noteworthy. The Cleveland water-supply is at present more or less exposed to contamination with the city's own sewage, although opinion differs as to the exact degree of danger.[2] In 1912 the water supplied to Cleveland was treated with hypochlorite, and a significant drop in typhoid fever was recorded. The water-supplies of Chicago, Boston and New York have remained essentially unchanged during the period covered by these figures. Whether the considerable reduction in the typhoid rate in these cities shown in 1911 and 1912 is due to an increase in the consumption of heated milk as suggested by one writer[3] is worthy of consideration.

Baltimore at present stands practically alone in this group with a typhoid rate nearly twice as high as that of any other city. Even in Baltimore, however, marked improvement seems to have taken place following the treatment of the water-supply with hypochlorite beginning January, 1911. In 1912 the typhoid rate was the lowest in the sanitary history of the city.[4]

Altogether, if we except Baltimore, there is reason for some satisfaction over the typhoid situation in the group of our largest cities. Reasonably steady improvement in the typhoid death-rate is shown in nearly all cases, and in the last two years there has been an approximation in several instances to the rate in some European cities that have long been held up as a model. Cleveland, Chicago and Boston all had a lower typhoid rate in 1912 than the London average for 1901-1905 (8.5).

Without exception the typhoid average for all the cities in this group was lower in 1911-1912 than in the five years 1906-1910.

TABLE 2.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 2 (POPULATION FROM 300,000 TO 500,000)

	Deaths from Typhoid per 100,000 Population 1912	1911	Average 1906-1910
Newark, N. J.	7.1	10.3	14.6 (1)
Cincinnati	7.5	11.7	30.0 (7)
Buffalo, N. Y.	11.4	25.1	22.8 (3)
Minneapolis	11.5	11.6	32.2 (8)
New Orleans	14.0	20.7	35.6 (9)
San Francisco	14.1	15.6	27.3 (6)
Los Angeles	14.6	12.6	19.0 (2)
Detroit	17.1	15.6	23.4 (4)
Washington, D. C.	21.2	20.9	36.9 (10)
Milwaukee, Wis.	25.3	19.3	27.0 (5)

The marked improvement in the water-supply of Cincinnati is reflected in the lowered death-rate from typhoid fever in that city for 1911 and 1912. In fact, the reduction is far greater than appears from these figures (Table 2) since the rates for 1908 (18.8), 1909 (12.8) and 1910 (5.7) fall in the pure-water period and are much below the rates for 1906 (68.5) and 1907 (44.5). Minneapolis, also, shows in its lowered death-rate the probable effect of the use of hypochlorite on the city water-supply. THE JOURNAL has already described in some detail the situation in Detroit[5] and Milwaukee.[6] Little change seems to have taken place in typhoid conditions in either city since the investigation by the representatives of THE JOURNAL in 1910. Detroit, as well as Milwaukee, should take action in respect to its water-supply. In 1896-1900 Milwaukee and Detroit had the lowest typhoid rates in this group of cities; now their relative position is among the worst. They may well contrast their typhoid-fever death-rates with those of the lake cities that have pure water-supplies.

1. Hartford, Conn., is included in this group; the population in 1910 was 98,915, but it is thought now to have passed the 100,000 mark.

2. Jackson, D. D.: Report on Sanitary Condition of the Cleveland Water-Supply, May 25, 1912; Jackson, G. S., and Perkins, R. G.: Typhoid in Cleveland in 1911, Cleveland Med. Jour., 1912, xi, 816.

3. Jordan, E. O.: The Case for Pasteurization, THE JOURNAL A. M. A., Oct. 19, 1912, p. 1450.

4. Ford: Johns Hopkins Hosp. Bull., 1911, xxii, 53; ibid., p. 351; ibid., 1913, xxiv, 108. Ford and Watson: ibid., 1912, xxiii, 275. Stokes: Bull. Med. and Chir. Fac., Maryland, 1912, v, 73.

5. Typhoid in Detroit, special article, THE JOURNAL A. M. A., Oct. 8, 1910, p. 1284.

6. Typhoid in Milwaukee, and the Water-Supply, special article, THE JOURNAL A. M. A., July 16, 1910, p. 211.

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The exhaustive and prolonged investigation of typhoid conditions in the national capital is too well known to our readers to need discussion here.[7] Whatever the cause may be, the decline in typhoid fever in Washington since 1906 is noteworthy. The low rate reported by New Orleans in 1912 is interesting.

All the cities in Group 2, like those in Group 1, show a lower typhoid average for 1911-1912 than for 1906-1910.

TABLE 3.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 3 (POPULATION FROM 200,000 TO 300,000)

	Deaths from Typhoid per 100,000 Population 1912	1911	Average 1906-1910
Seattle, Wash.	7.4	9.4	25.2 (6)
Jersey City, N. J.	7.5	6.2	12.6 (2)
St. Paul, Minn.	10.2	10.0	18.0 (4)
Providence, R. I.	10.3	12.2	14.3 (3)
Rochester, N. Y.	11.8	10.3	12.4 (1)
Kansas City, Mo.	12.8	23.7	35.6 (9)
Denver	13.0	17.6	35.5 (8)
Portland, Ore.	16.9	17.8	23.3 (5)
Indianapolis	18.3	26.2	30.4 (7)
Louisville, Ky.	18.9	25.6	52.6 (10)

Marked improvement in typhoid-fever rates is shown by every city in Group 3 (Table 3). The rates for 1912 are in every case below 20, the only group of which this can be said. Especially noteworthy is the case of Louisville, where the typhoid rate has fallen steadily since 1907, a circumstance that may be attributed largely, if not solely, to the improvement of the public water-supply.

TABLE 4.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 4 (POPULATION FROM 125,000 TO 200,000)*

	Deaths from Typhoid per 100,000 Population 1912	1911	Average 1906-1910
Paterson, N. J.	4.6	21.2	19.3 (3)
Worcester, Mass.	6.6	6.7	11.8 (1)
Scranton, Pa.	8.7	12.0	31.4 (6)
Oakland, Cal.	9.0	12.6	21.5 (4)
Richmond, Va.	16.2	17.4	34.0 (7)
Syracuse, N. Y.	16.8	15.7	15.7 (2)
Columbus, Ohio	20.2	13.8	40.0 (10)
New Haven, Conn.	24.5	23.4	30.8 (5)
Toledo, Ohio	33.0	22.6	37.4 (9)
Atlanta, Ga.	35.2	55.8	58.5 (11)
Memphis, Tenn.	56.2	61.2	35.3 (8)

* No reply was received from Birmingham, Ala.

Group 4 (Table 4) comprises several cities with very low and several with very high rates. Two cities (Syracuse and Memphis) have a higher average for 1911-1912 than for 1906-1910. Memphis has the unenviable distinction of maintaining for the past two years the highest rate from typhoid fever of any large city in the United States. The question may be asked why the Syracuse typhoid rate has remained stationary or even slightly increased while nearly every other large city in the country has shown a reduction.

Attention is also especially directed to New Haven by these figures. The typhoid rate in this city has been excessive for the last seven years. In 1912 only six large cities in the country, some of them with notoriously bad water-supplies, had a higher typhoid rate than New Haven. The position of this city is rendered more conspicuous by the fact that it is in a section of the country where low typhoid rates prevail. Eight other New England cities are included in our tabulation. All of these have a lower typhoid rate than New Haven, and five of them have a rate under 10 (New Haven, 1912=24.5). What's the matter with New Haven?

The citizens of Toledo may perhaps ask themselves why the typhoid rate in that city in 1912 should be five times as great as the rate in Cleveland. A rate of 33 in a Northern city would seem to call for drastic measures.

On the other side may be mentioned such very encouraging conditions as apparently exist in Worcester, Mass., where a very low typhoid rate has been maintained for two consecutive years, and the remarkable improvement that has been brought about in Richmond, Va.

TABLE 5.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 5 (POPULATION FROM 100,000 TO 125,000)

	Deaths from Typhoid per 100,000 Population 1912	1911	Average 1906-1910
Cambridge, Mass.	2.8	4.7	9.8 (1)
Bridgeport, Conn.	7.4	3.8	10.2 (2)
Lowell, Mass.	9.2	6.5	13.9 (4)
Hartford, Conn.	12.7	19.8	18.9 (6)
Omaha, Neb.	13.2	45.1	40.8 (8)
Spokane, Wash.	16.9	38.5	50.4 (9)
Albany, N. Y.	17.7	17.8	17.5 (5)
Fall River, Mass.	18.8	15.8	12.5 (3)
Nashville, Tenn.	30.1	52.0	61.2 (10)
Grand Rapids, Mich.	54.0	26.1	29.7 (7)
Dayton, Ohio	*	18.3	22.4

* No answer received from health department.

Three cities in Group 5 (Grand Rapids, Fall River and Albany) show no improvement in their typhoid rates for 1911 and 1912 over the preceding five years (Table 5). In view of the general trend of typhoid-fever rates in this country this should cause some searching of heart among the inhabitants of the last two cities named. Grand Rapids has until lately presented the familiar case of an increasing water-supply pollution, but the new water-purification plant just installed should improve the condition in that city very materially. The situation in Albany, which obtains its supply from the dangerously polluted Hudson River, but is provided with a well-constructed and well-operated sand-filter plant, has attracted comment from sanitarians. Some observers have expressed the suspicion that while the filter greatly reduced, it did not altogether remove the danger of water-borne infection. The question cannot be discussed here, but the failure of typhoid in Albany to decline as it is doing elsewhere gives food for thought. Cambridge, Mass., has the lowest typhoid average for 1911-1912 of any city in the country, thus keeping the place it held in 1906-1910.

The only cities with a higher average typhoid rate in 1911-1912 than in 1906-1910 are Memphis, Tenn., Syracuse, N. Y., Grand Rapids, Mich., Fall River, Mass., and Albany, N. Y.

Cities with an average typhoid death-rate in 1911-1912 *below 10* are Cambridge, Mass., Bridgeport, Conn., Worcester, Mass., Jersey City, N. J., Lowell, Mass., Seattle, Wash., Boston, Newark, N. J., Chicago and Cincinnati.

But one city in the whole fifty-one (Cambridge, Mass.), had an average below 10 for the five years 1906-1910.

7. Rosenau, Lumsden and Kastle: Report on the Origin and Prevalence of Typhoid in the District of Columbia, Bull. Hyg. Lab., U. S. P. H. Service, Nos. 35, 44, 52 and 78.

"New Diseases" Not so Rare as Generally Supposed.—Family jaundice is a condition which has only been described within the last ten years or so, but, like many diseases which are believed to be rare, when once it comes to be generally recognized it will probably be found to be not so rare as was supposed.—Robert Hutchison, in *Clin. Jour.*

BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(Continued from page 1622)

VI

INOCULATION INTERVAL

The interval between inoculations is also important, but hard and fast rules regarding it do not hold in practice. A too frequent repetition of a bacterial vaccine, especially in a large dose, tends toward a "cumulative negative phase," a state with clinical evidences of retrogression. Too rare inoculations, especially with small doses, fail to achieve the sustained high tide of immunity, thus resulting in slight or merely temporary clinical improvement.

Negative-Phase Reinoculation. — One rule derived from studies of the opsonic index has attained almost axiomatic importance. This is never to reinoculate during the negative phase. Vital as it is, this injunction seems largely to have escaped the attention of physicians using stock vaccines. Cases occur in which bacterial vaccines in amounts sufficient to arouse marked local reaction are inoculated at intervals of one, two or three days; and to make matters worse it often happens that these depressing and cumulative inoculations are made in one restricted injection-site. Weeks or even months may be required for Nature to compensate for the damage inflicted on the immunizing mechanism by such heedless practice.

Average Inoculation-Intervals.—In treating subacute and chronic infections, intervals of from five to ten days have been found to serve successfully. In acute infections, particularly if moderate doses of vaccine are used, some repeat the inoculation in from two to five days, believing that the positive phase is of short duration, and that a relapse will occur if the doses are spaced too far apart.

Cessation of Treatment.—Rarely a single dose of bacterial vaccine appears to render further treatment superfluous. It is not prudent, however, to rely on such a possibility in rapidly progressing localized infections, but assurance should be made doubly sure by repeating several times the dose of vaccine which appears to have elicited the satisfactory response. Even if these additional inoculations are not imperatively required, they provide harmless insurance against relapses, or reinfections which may convert an acute case, promising at the start, into a lingering chronic one. After prolonged treatment in chronic infections, especially as improvement reaches a maximum, the inoculation interval may be gradually lengthened so that treatment is not abruptly terminated.

Irrational Dosage.—Some radical departures in the matter of dosage and spacing have recently been advocated. One of these is the employment of serially increasing doses like the plan adopted by some workers for tuberculin therapy. Another is to shorten the inoculation-interval, to begin with small doses and quickly step up to larger amounts. These innovations are positively condemned by the consensus of expert opinion. They represent some of the blind gropings for success which argue against empiric-vaccine therapy with stock vaccines. If the practitioner is sufficiently skilled to prepare and use the right vaccine and to adjust the dose and inoculation interval of this vaccine exactly, no change is necessary. In fact, it would be prejudicial to success were the dose regularly increased or diminished, or the interval shortened. Accordingly too much emphasis cannot be placed on warning physicians relatively unskilled in practical vaccine therapy to avoid any scheme of dosage which calls for inoculations at short intervals with increasing doses of killed bacteria.

VACCINES IN ACUTE INFECTIONS

Bacterial vaccines were originally used only in chronic and subacute infections, and theoretically this limitation is justified. Accordingly it has come to pass that many excellent authorities prohibit the employment of vaccine therapy in acute infections. The danger of overturning the delicate balance in acute infections by imposing a negative phase is assigned as a reason for this prohibition, and, as has already been stated, this objection should never be ignored in the critical stages of severe general infections in case one is ever so venturesome as to undertake the treatment of such conditions with vaccines. But there are a goodly number of successful specialists in vaccine therapy who bring forth impressive testimony to show that one may go to extremes and deny the benefits of vaccine therapy to promising cases by excluding from its scope all the acute infections. These authorities produce clinical and experimental data favoring autogenous vaccine therapy in acute localized infections, particularly the traumatic wound infections and the sepsis of the puerperium. The astonishingly prompt improvement of both local and general conditions which follows the inoculation of a correctly graduated dose of autogenous vaccine in acute cellulitis, phlegmon or puerperal fever has been observed and recorded by a sufficient number of competent workers to justify its further trial. Such trials should, however, be confined to experts, and the tyro in vaccine therapy should studiously avoid the treatment of acute generalized infections with bacterial vaccines, especially with those of commerce, and if the treatment of acute localized infections is undertaken the utmost caution should be exercised.

UNTOWARD EFFECTS OF VACCINES

With uncontaminated bacterial vaccines in proper dose skilfully administered, direct harm is most uncommon, if, indeed, it ever occurs. Such accidents as have happened may be assigned to the following causes:

Excessive Dosage.—The harm attending the cumulative negative phase in subacute and chronic infections as induced by too large doses of vaccine, or by a correct dose repeated at too frequent intervals, has already been described. Besides this there is the danger of causing a sharp and possibly disastrous negative phase in the course of an acute infection like septicemia or pneumonia. Theoretically, at least, this is a possibility not to be disregarded. At the critical stage in such an acute disease, when the natural forces of immunization are hanging in the balance, it is conceivable that the depression of a marked negative phase induced by a bacterial inoculation may be the deciding factor against recovery. In practice it is extremely difficult to appraise this situation and to decide the delicate question as to whether the vaccine administered at the crisis of such an illness contributed to the unfavorable issue. In any event the possibility should be kept in mind and guarded against by endeavoring to avoid bacterial inoculations in acute infections when clinical evidence points to an impending

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

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crisis. When a state of overwhelming infection is plainly indicated, inoculations should be strictly avoided since they will inevitably fail, and such failure tends to the discredit of vaccine therapy as a whole, particularly to the lay mind.

Contamination.—Bacterial vaccines may become contaminated during manufacture, as will be shown in a succeeding section. The risk in using such a vaccine is obvious and depends on the nature of the contaminating agent. There is also to be considered the contamination incidental to the manipulations of inoculation, as by imperfectly sterilized syringe, careless handling of the vaccine, or carelessness during the injection. The consequences of these manipulative errors usually are inflammatory indurations at the injection site, sometimes eventuating in abscess.

Allergy.—The phenomena of anaphylactic reaction are encountered as a rare event in the course of a series of bacterial inoculations. This reaction may be localized at the site of a previous inoculation which becomes temporarily swollen and irritated. More marked hypersensibility is shown by erythematous or other skin eruptions usually accompanied by itching; in still less frequent instances the acute angioneurotic symptoms of a serum anaphylaxis with transient or more persistent urticaria have been noted. There is, however, no record of fatal anaphylactic shock following the inoculation of bacterial vaccines.

COMMERCIAL STOCK VACCINES

Two particular factors serve to account for the incredible rapidity with which vaccine therapy has evolved from a specialized to a widely generalized pursuit; the pioneer paving of the way by the therapeutic serums, and the commercial exploitation of the new field.

Antidiphtheric serum was the first therapeutic biologic product to obtain general adoption by physicians, but its experimental and developmental stages were slow as compared with vaccine therapy. Difficulties attending its production were such as to take it out of the hands of the individual physician and to call for the facilities of a special institution. Federal, state or municipal agencies proving only partially adequate to meet the situation, the rise of private commercial antitoxin laboratories followed. The commercial manufacture is, however, under efficient control. Rigid biologic standards for therapeutic effectiveness have been established, and are enforced by federal inspection and license. The clinical indications for the use of antidiphtheric serum are usually clear, and the results of its administration specific. Accordingly, the manufacture of this serum can be centralized and its clinical employment can be entrusted safely to the whole profession.

But the centralized commercial manufacture and wide usage of bacterial vaccines have no justification as compared with antidiphtheric and other antiserums. Bacterial vaccines can, and preferably should, be made by the individual physician. There is nothing complicated or expensive in the process, and it is difficult to make sure of a proper control of the product in any other way. They have no standards of therapeutic effectiveness like the antitoxic units of antidiphtheric and antitetanic serums. Consequently the federal license can convey no guarantee of potency for any of the marketed bacterial vaccines. The physician who employs stock vaccines is obliged to trust a number of outside workers for the purity and efficiency of his remedy. Moreover, with few exceptions, there are no specific symptomatic indications for the clinical use of stock vaccines; nor are there any certain assurances of specific therapeutic effect. The bacteriologic culture test is the logical antecedent of bacterial therapy, and the physician who avails himself of this aid has prepared the way for the use of a correct corresponding vaccine, or better still, for the autogenous one.

Superiority of Personally Prepared Autogenous Vaccines.—The advantages of autogenous vaccine therapy are most certainly to be secured when all steps in the preparation and use of the vaccine are pursued by the practitioner treating the case or by some one with whom he is in close personal touch. If the exigencies of the situation are such that the practitioner must send his morbid material to some distant laboratory for identification of the bacteria and the preparation of the vaccines, there is little advantage in autogenous as compared with stock vaccines. It follows that autogenous vaccines should be made and used at first hand, their employment being based on the possession by the clinician of sufficient skill and experience.

PRESENT CONDITIONS UNSATISFACTORY

The situation as it now exists was foreseen by Wright, who several years ago warned against promiscuous vaccine therapy, and who defined the immunizator as one who had, by long preliminary training in bacteriology, immunology and clinical medicine, qualified himself to undertake the new development in medical practice. A protest against indiscriminate vaccine therapy was also voiced by Adami, who advised that the method be confined to those younger medical men whose laboratory training had prepared them to undertake and master it. Notwithstanding this sound advice, we are to-day confronted with a state of affairs totally disregardful of it, and ascribable in the main to commercial exploitation. To consider in detail the unsatisfactory features arising from such exploitation is now in order.

MISLEADING THERAPEUTIC CLAIMS

Bacterial therapy, even in the hands of its most skilled practitioners, is by no means an assuredly successful method of treating infections, and failures multiply as practitioners are less competent and are thus forced to rely on outside aid in the preparation of the remedial agents. It is natural that the manufacturers should stimulate an attitude of therapeutic optimism and minimize the drawbacks. Therefore, it has come about that in order to promote the sale of stock bacterial vaccines manufacturers have exaggerated the claims for their therapeutic effectiveness, at times to the point of the ridiculous, or even to the utterly preposterous.

One has but to review the advertising literature of any of the firms marketing stock vaccines to find misleading, overdrawn or entirely unfounded statements of curative virtues. To discuss these assertions in detail would exceed the limits of the present articles, and only a few of the more flagrant examples can be chosen.

(To be continued)

Necessity of Vital Statistics.—The earnest, intelligent health officer relies on statistics for an understanding of his field. A tax-collector cannot discharge his duties unless he knows the address of every debtor. A police bureau cannot protect society unless it knows the character and haunts of the degenerates. A health officer cannot execute the law for the protection of society's health unless he knows the haunts and habits of disease. For this he must look to vital statistics.—Dr. William H. Allen.

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SATURDAY, MAY 31, 1913

THE LAXATIVE ACTION OF SULPHATES

Various theories have been formulated in regard to the mode of action of those drugs which are familiarly known as laxatives or purgatives. Broadly speaking, they may be considered to behave in one of two ways: either they promote the motor functions of the bowel, and as the result of the heightened peristalsis cause the normally fluid contents of the intestine to be propelled to the rectum before the usual degree of concentration by absorption of water has taken place; or by some mechanism or other they permit a dilution of the intestinal contents whereby the latter remain more or less liquid or voluminous. In either case the end-effect is the same; for an undue accumulation of fluid masses in the intestine, whatever their origin may be, tends to bring about a vigorous reflex peristalsis whereby the bowel becomes emptied.

There is no longer any doubt that the various types of purgative agents have unlike modes of action. The uncertainty regarding the mechanism by which the purgation is ultimately accomplished has involved the so-called saline laxatives in particular and has long been a source of much speculation and experiment. The theories have oscillated between what may be termed purely physical (or physicochemical) and physiologic points of view, the intestinal membrane exhibiting something more than a merely passive rôle in the physiologic hypotheses. Without entering into the historic details of the subject we may recall that the earliest explanations postulated an osmotic exchange of fluid into the lumen of the intestine to dilute the concentrated solutions of salts ingested as laxatives. Buchheim showed that this was not sufficient to account for the fluidity acquired by the intestinal contents. He pointed out that the typical effect of the laxative sulphates, for example, is independent of the concentration of their solutions, and insisted that inasmuch as the sulphates are poorly absorbed from the intestine they retain the solvent in the interior of the bowel. Increased transudation has been called on to explain the increased fluidity of the intestinal contents following the use of the saline products; but more significant is the view championed particularly by Brieger and Hay, whereby the sulphates are assumed to provoke an unusually abundant secretion of intestinal juice into the bowel. From time to time the investigation of the possibilities here presented has been renewed, new methods of research being applied as the progress of science suggested them. In illustration of this the introduction of the Roentgen-ray procedure for following the motor behavior of the alimentary tract and the newer successful devices for observing the activity of isolated loops of the intestine *in vitro* may be cited.

The idea that the sulphates may act directly on the motor activities of the intestine has not yet been entirely abandoned. J. B. MacCallum believed that sulphates increase the irritability of the local nervous mechanism of the intestine so that its contents may act as a vigorous stimulus to peristaltic action. In this event subcutaneous injections of a soluble sulphate which would thus reach the intestinal wall by way of the circulation might be expected to perform the laxative functions as well as or better than the oral administration. This, however, is not so; for the parenteral administration of Epsom or Glauber's salts is more than likely to be followed by constipation. Yet the hypothesis of heightened peristalsis has had even more recent support.[1]

In the pharmacologic institute of Professor Kionka at Jena, Dr. Cobet[2] has lately taken up the problem of saline laxatives again. His interest has centered in the tenability of the hypotheses as to the rôle of osmosis, diffusion, secretion and deficient absorption, respectively, in the explanation of how magnesium sulphate (Epsom salt) maintains the essential fluidity of the intestinal contents which leads to purgation. The result of this experimental investigation has been to emphasize the vigorous secretion of intestinal juice into the bowel under the stimulus of the sulphate; it is this, according to Cobet, rather than simple diffusion currents which accounts for the inrush of liquid. The chlorid present in the secretion discharged into the bowel may be reabsorbed at lower levels of the intestine; but the water is largely retained within the lumen by the poorly absorbable sulphates. Reabsorption of fluid does not take place until the introduced sulphate solution has become greatly diluted. Accordingly if sulphate solutions of low concentration are administered orally, their volume must be decidedly large because the fluid becomes partly absorbed under such conditions.

It has been asserted that the presence of chlorids promotes the laxative effects of the sulphates. Cobet's experiments give a partial support to the contention; for they show that in the presence of hypertonic solutions, sodium chlorid in concentrations up to 0.6 per cent. is practically not absorbed at all in the upper portions of the intestine. Thus it may replace an equivalent amount of refractory Epsom salt or supplement it.

1. Tyrode: The Mode of Action of Some Purgative Salts, Arch. internat. de pharmacol., 1910, xx, 205.

2. Cobet, Rudolf: Ueber die Resorption von Magnesiumsulfatlösungen im Dünndarm und die Wirkungsweise der salinischen Abführmittel, Arch. f. d. ges. Physiol., 1913, cl, 325.

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The laxative action of the sulphates is further promoted by the vigorous secretion of mucus which they occasion. The intestinal surface becomes, as it were, more smooth and pliant, and the progression of the contents of the bowel is thereby facilitated.

TYPHOID IN THE UNITED STATES

We have been so accustomed in this country to regard the typhoid rates in our large cities as deplorably and inexcusably high that the facts recorded in a special article in this issue will come as a surprise to many of our readers. Collection and tabulation of these data have been prompted by the conviction that the actual typhoid conditions in American cities should be widely known both as an encouragement to those municipalities that have inaugurated comprehensive reforms in water-supply and sewage-disposal, and as an incentive to those still halting by the wayside. Perhaps the most significant fact is that in the last six or eight years a revolutionary improvement has been brought about in the water-supply of many large cities. Common fairness demands that in such cases as wide publicity be given to the present satisfactory condition as was given to the discreditable situation of a decade ago. It should be a matter of national pride that Philadelphia and Pittsburgh, for example, now have excellent public water-supplies and that the danger of contracting typhoid fever in those cities is relatively slight.

The data we have gathered emphasize strongly the need of insistence on a pure or purified water-supply as the first and most important step in a national campaign against typhoid fever. In practically all cases improvement in the character of a water-supply has been followed by a great, often a remarkable, typhoid diminution, as witness Cincinnati, Pittsburgh and Minneapolis. In nearly every city also in which the drinking-water has been good throughout the period covered by these figures, typhoid has been steadily declining. This is perhaps just what would be expected from the cumulative decrease in the number of carriers and consequent lessening in the opportunity for contact infection and food contamination. Every case prevented narrows the circle of infection. The prevention of thousands of cases, as at Pittsburgh and Philadelphia, avoids the formation of several scores of permanent typhoid carriers who might help to disseminate the disease throughout the country or remain for years to plague the community that produced them. However important the direct question of water-supply may be, this other factor should not be overlooked.

Another possible—indeed, probable—factor in the striking diminution in typhoid now going on in American cities is the rapidly increasing use of pasteurized milk. Sanitarians should closely study this phase of the typhoid problem more closely.

Whatever the underlying sources may be, it is gratifying to see that we are in a fair way to lose our national preeminence in typhoid mortality. The rapidity with which the change is taking place is surprising to even the best-informed of us. THE JOURNAL proposes each year to print a tabulation similar to that appearing in this issue with the hope of suggesting or accelerating further improvement. Typhoid fever does not belong in civilized communities; it is not a disease that American civilization can tolerate. It must go.

THE EFFECTS OF HIGH-FREQUENCY CURRENTS

With increasing knowledge as to the properties and manifestations of the electric current, the application of this form of energy in medicine ought to be put on a firmer basis of scientific certainty. Electric apparatus and electric treatment have now found a wide-spread use in practice. The critical observer and the conscientious physician are often at a loss to know what are the explicable features of electrotherapy, where the borderline between empiricism and rational procedure lies, and how "psychic" effects or quackery are to be distinguished from real and defensible phenomena. The exorbitant claims and the unbelievable results which have been associated with the medical uses of electricity need to be sifted and exposed before the eyes of the mystified initiate. The properties of electricity deserve to be clearly defined, and their appropriate uses succinctly outlined and interpreted.

Although it has long been known that the human body can be subjected to electric currents of high tension and high frequency without other effects than those attributable to the temperature manifestations induced thereby, extravagant claims are even now occasionally heard. For example, it has lately been stated that a few "treatments" with currents of from 1 to 3 amperes sufficed to increase the weight of an individual 14 kilograms. One might assume, on the face of such information, that the energy introduced in the form of the current had spared a corresponding amount of the body's store; but it has been calculated[1] that if such an increase of body-weight were in the form of fat, to supply the gain would require 260 daily treatments of two hours each, furnishing a daily current-energy equivalent to from 300 to 500 calories. On the other hand, it has been maintained that special modes of application of high-frequency currents may induce a loss of two pounds in a single treatment of half an hour's duration. This is equivalent to a loss of 9,000 calories in the form of fat. Such are some of the extreme claims on record.

Durig and Grau[1] have conducted a careful investigation of the influence of alternating currents of high tension and frequency on metabolism and other functions of the human body. The chief experimental difficulty is encountered in furnishing electrodes of sufficient surface to prevent harmful local heat effects where the current is applied. Success attended the liberal distribution

1. Durig, A., and Grau, A.: Der Energieumsatz bei der Diathermie, Biochem. Ztschr., 1913, xlviii, 480.

of tinfoil over the limbs for this purpose, so that high-frequency currents of 1.9 amperes at 180 volts were transmitted to the body for twenty minutes, and in one case 1.8 amperes at 176 volts for two and one-half hours. The maximal contribution of energy in this way was 627 calories — the equivalent of nearly one-third the daily requirement of man at rest. The effect of this treatment was solely that of the heat manifestations. There was a rise in temperature, leading to increased frequency of the pulse and profuse perspiration. Metabolism was maintained within the bounds of what may be expected from comparable increases in temperature brought about in other ways. There was no alteration of the oxidative functions of the organism; there was neither storage nor undue waste of energy. When one bears in mind that the heat effects of the prolonged transmission of the current may be marked, leading to a distinct rise of temperature, it is not surprising to note a dilatation of the peripheral blood-vessels or of the kidney vessels with a consequent effect on the urinary secretion. These phenomena are in no strict sense peculiar manifestations of the use of electricity. They are the results of heat.

High-frequency currents have been credited with a germicidal influence on the body. Durig and Grau have considered this possibility also. It is not difficult to destroy microorganisms as a result of the high temperature which can be induced in mediums through which the currents pass. It is nothing short of dangerous, however, to attempt the destruction of these lower forms in this way in the body tissues; for, inasmuch as we are dealing with a pure heat effect and not a specific electric influence, the difference between the lethal temperature of the tissue to be preserved and the organism to be destroyed is too small to encourage efforts along this line.

Studies of the foregoing sort serve to distinguish the mystic from the obvious effects of certain forms of electric energy. It is always a grateful experience to be emancipated from bonds of uncertainty.

THE ELIMINATION OF MERCURY

The distribution and physiologic fate of compounds which are widely used in medicine, though perhaps secondary in importance to their pharmacologic performances, are yet deserving of careful attention. What occurs in the organism as the result of the introduction of drugs, be it curative or detrimental, is frequently in no small measure dependent on the course which they pursue in traversing the body and the channels which they follow in the process of elimination. Even with so widely used remedies as the compounds of mercury there are gaps in our knowledge which could be filled with profit for the understanding of the mode of action of this potent element. In one country inunctions are used by preference; in another internal therapy finds the most ardent advocates; elsewhere it is the intramuscular or intravenous administration of the diverse available mercurial products that meets with widest approval. The formulation of a rational judgment in respect to the conflicting merits will depend somewhat on the facts in respect to the actual absorption, transport and excretion of mercury under the various conditions and forms of administration that are practiced. The quantitative estimation of mercury in the tissues and excreta calls for refined chemical technic and analytic experience—hence the comparative paucity of reliable data.

Newer contributions by Dr. Buchtala[1] of Graz add important facts in this field. It has been asserted that after certain forms of mercury inunctions the entry of the element is in reality in volatile form through the respiratory tract. It is now apparent, however, that even after the use of non-volatile mercury salts the element is absorbed through the skin, which is attested by an excretion of mercury by the kidneys in quantities up to 1 or 2 mg. per day. After intramuscular administration of either soluble or insoluble compounds of mercury the daily elimination reaches decidedly higher figures—up to 5 mg. and over after the dosage employed in Buchtala's cases. This means, without doubt, that the concentration in the tissues and fluids is also greater; and from a purely theoretical point of view it might seem pharmacologically advantageous to have the effective agent present in greater abundance. It is by no means decided yet whether the mercury acts directly as an agent destructive to the infectious organisms which it is intended to combat, or whether the influence is an indirect one exerted in stimulating the body toward greater antitoxic effort.

Of especial practical prominence is the contention that the kidney cannot excrete more than 10 mg. of mercury per day without liability to damage. Renal irritation and albuminuria are prominent symptoms. The question is thereby raised whether the injection of masses of insoluble mercury compounds under the skin to serve as depots for slow solution is an entirely safe procedure. This certainly is the case only when an unduly rapid solution and transport of the mercury will assuredly not ensue. In the light of what has been said the method is at best a questionable one and is discountenanced in certain quarters.

The use of iodids in conjunction with mercurial treatment in the medication of syphilis is believed to be attended with favorable consequences. The newer investigations have shown that after the simultaneous use of these drugs there is a tendency toward a lowered output of mercury in the urine. The real significance of this finding is not yet apparent. Possibly the formation of insoluble compounds of mercury and iodin or of soluble but little ionized mercury-iodin compounds will furnish an explanation of the delay in the excretion.

1. Buchtala, H.: Ueber das Verhalten des Quecksilbers gegenüber dem menschlichen und auch tierischen Organismus bei den üblichen therapeutischen Applikationsarten, Ztschr. f. physiol. Chem., 1913, lxxxiii, 249.

Animal experiments show that the path of elimination for mercury is not solely by way of the kidneys. The bowel may also participate in the excretory function, quite in harmony with what is observed in the case of various other elements.

CHINESE DRUGS AND MEDICAL ADVERTISING

The therapeutic ways of those nations that have not yet been introduced to the scientific medicine taught and practiced by our medical schools are always of interest. Not infrequently the empiric procedures which are handed down from one generation to the next carry with them an element of value which modern investigation has discovered and justified on the basis of accurate tests. In this manner various drugs have found their way into the practice of to-day and retained a place for themselves, though perhaps not always in the crude form in which they were originally exhibited before the era of isolated chemical "principles." History furnishes abundant examples of drugs or plant products with reputed and attested curative virtues that were recognized long before experimental pharmacology reached even an incipient stage.

Professor Santesson, the pharmacologist of the Carolingian Medicochemical Institute at Stockholm, in Sweden, has furnished some interesting notes on a somewhat unique Chinese "medicine" which he obtained through authentic sources from the East.[1] It is reputed to have a strong digitalis-like action. The description of the container itself indicates a degree of artistic ingenuity scarcely equaled by our own purveyors of drugs with mystic potency. The miniature urn and carton, the highly colored silk and paper wrappers, all add to the impression of something with dignified efficiency. The product itself consisted of minute black grains, emitting a faint odor of musk. The chemical and pharmacologic investigation, though not exhaustive, indicated the presence of a glucosid of the digitalis group, presumably like strophanthin, as the chief component of the granules. The reputed potency and the toxicity of the preparation are thereby explained.

A translation of the "advertising literature" (in Chinese) which accompanied the package is worthy of repetition. It reads:

> The "Look Zung" pill may be used for infective wounds; epidemic cases of sore throat; ulcers of the throat and diphtheria; diseases of the breast; and in all cases in which no liquid (like tea or soup) can be taken. The use of ten of these pills, dissolved in boiling water and slowly swallowed, invariably effects a specific cure. In serious cases repeat the dose.
>
> The pill also cures boils, abscesses and carbuncles; cancer of the stomach and intestines; cancer of the breast; and all kinds of inflammation and poisoning.
>
> Further, in children suffering from dangerous cases of croup and laryngismus stridulus, ten of these pills, dissolved in boiling water and taken, will give immediate relief.
>
> It is indeed impossible to mention all the specific uses of this pill.

Obviously this descriptive circular gives little clue as to the composition or specific value of the product—which leads the Swedish investigator to remark that the Chinese appear to be quite as expert in the extravagances of medical advertising as are any European or American firms.

1. Santesson, C. G.: Ein chinesisches Medikament, Skandin. Arch. f. Physiol., 1913, xxix, 37.

THE BACTERIAL EXAMINATION OF WATER

Much interest has been aroused in the report of the committee that prepared the latest edition of "Standard Methods of Water Analysis."[1] We have already referred[2] to the wide-spread criticism of the 37-degree bacterial count. Chamot[3] has recently taken up the whole subject in a broader way, and has made a number of suggestions that will appeal to those analysts who have feared lest the bacterial examination of water might be degenerating into an unintelligent routine procedure.

The ease with which colony counts may be made and gas formation in sugar broth determined has tended to emphasize the accumulation of data rather than their interpretation. Comparative results have often been considered quite as much from the point of view of method-testing as from that of the actual conditions that they reveal. That we have still much to learn about the "permissible limit" of *Bacillus coli* numbers, about varieties of *B. coli*, about the significance of gas-producing bacteria, about seasonal conditions and many other matters, no experienced observer can doubt. As pointed out by Chamot, it is hardly in accord with the scientific spirit to limit ourselves to any one or to any half dozen methods in attempting to solve the problems of water bacteriology.

The specific case of the gelatin plate is a pertinent one. It is true that the bacteriologist who is familiar with gelatin-plate results can often obtain significant information about the character and history of a water better by this means than by any other. We are certainly not justified in omitting any expedient that can throw light on a doubtful case.

One cardinal principle of water analysis needs to be kept constantly in mind, namely, the fact that the bacterial condition of a water at the time of its examination does not necessarily give any information about its liability to pollution, past or present. In two recent instances known to us, public water-supplies were pronounced by analysts innocent of causing extensive typhoid fever outbreaks, but the epidemiologic investigations that followed showed the water to be unquestionably responsible. It cannot be emphasized too strongly that the absence or great scarcity of *B. coli* in a public water-supply at a given time does not mean that *B. coli* and even typhoid bacilli were not abundant in that supply two weeks before.

In the discussion of the "Standard Methods" now going on and in the revision sure to follow, the fact

1. Am. Pub. Health Assn., New York, 1912.
2. Standard Methods of Water Analysis, Current Comment, THE JOURNAL A. M. A., Feb. 1, 1913, p. 374.
3. Chamot: Am. Jour. Pub. Health, 1913, iii, 371.

should not be lost sight of that the object of the bacterial examination of water is not merely to determine the condition of the water at the time the examination is made, but to obtain all the information possible about the character of the water, and especially to discover as far as possible the probabilities and possibilities of future danger in using water drawn from a given source. All the information derived from local inspection, from bacterial examination and from chemical examination will not be too much in many cases to draw on in passing judgment. If our aim is to form an opinion about a water source, common sense and scientific prudence alike will demand that that opinion be based on a study of all available data.

EVIDENCES OF ARSENICAL POISONING

When death by poison is suspected, the court of inquiry is usually satisfied with proof of the presence in the body of a substance which is capable of producing the lethal outcome in a manner such as that in which the victim is known to have died. Sometimes there is an additional demand that the presence of a fatal dose of the poison shall be demonstrated. It rarely happens that a complete and exhaustive chemical analysis is called for in judicial investigations, since such examinations are lengthy and expensive and frequently would furnish little of added value from the point of view of the prosecution. As a result comparatively few facts compiled from actual human fatalities are available in respect to the distribution of poisons. A few organs such as the stomach, liver or kidneys are commonly subjected to analysis; but beyond this, little attention is paid to the relative content of the poison in the different parts. In fact, the materials saved at autopsy are frequently bottled up in a single container and sent to the chemist without any further thought of distinctions or differentiations. This is true despite the fact that the importance of studying the distribution of the poison in medicolegal cases has long been emphasized. Such a procedure calls for the cooperation of physician, chemist and perhaps lawyer as well; but it is likely to furnish results of practical importance with respect to knowledge of the mode of introduction of the poison; its nature, the possibility of post-mortem imbibition, of chronic versus acute intoxication, and other factors that may be of moment in establishing innocence or criminal guilt. Indeed, it has been said by a competent toxicologist that it is as much the chemist's duty to trace out the relative and absolute distribution of poison in the body of the deceased as it is to determine the nature and quantity of the poison in the stomach.

These comments apply with special force to arsenic. Although this substance no longer enjoys the distinction of being a popular poison as it did a generation ago, it is still occasionally encountered as an agent of acute intoxication in medicolegal practice. One of the foremost problems which always arise in connection with this poison is the determination of whether it was actually introduced into the body before death. Post-mortem introduction, and even cadaveric imbibition of poisons must always be kept in mind as a theoretical possibility, although the old, long-prevalent idea of the absorption of arsenic from the soil is no longer seriously considered.

Chittenden long ago[1] pointed out that the presence of arsenic in the brain, even if it be only in traces, is an indication amounting almost to proof positive of the ante-mortem character of the poison. Numerous facts lend their aid in arriving at a conclusion on this point. By no ordinary measures, such as those to which criminals would be likely to resort, could arsenic be introduced into the body after death and be carried by the ordinary processes of diffusion to a point so remote from the central portions of the body. Extensive migration of arsenic may be stopped by its fixation by conversion into an insoluble sulphid, and the unusual distribution would add a further clue as to the unphysiologic introduction. The absence of arsenic in the brain, on the other hand, in no wise proves that the poison was not taken prior to death.

Professor Ekeley of the University of Colorado has had an opportunity to investigate the organs of a person known to have died from arsenical poisoning. The findings which he has just placed on record[2] show that by far the greater part of the arsenic was taken up by the liver and kidneys. Only a trace found its way into the spinal cord, but the brain contained a small amount. The facts here reported are of peculiar value because the material was all obtained in good condition from a cadaver of known history, and they confirm the important contention of Chittenden cited above.

One still finds mention, in the text-books, of the antiquated belief that the bodies of persons poisoned with arsenic remain undecomposed a remarkably long time and may tend to become mummified.[3] In other words, these cadavers are said to desiccate rather than decompose. This alleged occurrence has been proposed as evidence of arsenical poisoning. It is certain, however, that mummification can occur in the absence of any arsenical factor; and Ekeley's record makes it equally certain, if further proof were needed, that cadavers from undoubted cases of arsenical poisoning may early show an advanced state of moist decomposition. As added evidence of what the elements working in the ground can do it is interesting to note Ekeley's finding that the soil which had been very near to the casket showed marked traces of arsenic, while that a little removed was almost arsenic-free.

1. Chittenden, R. H.: The Distribution of Arsenic in a Human Body, Am. Chem. Jour., 1883, v, 1; The Significance of the Absorption and Elimination of Poisons in Medicolegal Cases, Medicolegal Jour., 1884.

2. Ekeley, J. B.: The Distribution of Ante-Mortem Administered Arsenic in the Human Cadaver, Jour. Am. Chem. Soc., 1913, xxxv, 483.

3. Compare Kunkel, A. J.: Handbuch der Toxikologie, p. 267.

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Current Comment

IN LINE AGAINST FAKERY

Detroit Saturday Night, a virile Michigan weekly, has joined the campaign against fakery. It has studied the field, has gathered facts about frauds at its very door, and now presents its opinions of them in a fashion that is terse, direct and sure. Using, naturally enough, and with courteous acknowledgment, THE JOURNAL'S exposés and investigations, as bases for some of its articles, the Detroit paper offers "stories" that grip the interest even of those already familiar with the facts. Its charges are neither loose and vague nor purposely generalized to evade reprisal. If any reprisal were possible, *Detroit Saturday Night* would have known it ere now; for its reports have all the explicitness that names, places, analyses and figures can ensure, and its vocabulary includes the most vigorous terms. It knows, furthermore, the meaning of a testimonial and a death certificate side by side! But the real effect does not depend merely on crisp sentences and good headlines. The paper adorns its tale, but it also points a moral. It can ask embarrassing questions. For instance: If the claims of cure-alls be true, why do not papers carrying the advertisements of these cure-alls proclaim their worth in prominent news space? If Nature's Creation can cure tuberculosis, why continue the cost of tuberculosis hospitals and antituberculosis societies? Why spend from $10 to $25 for an Oxypathor, Oxydonor or any other "Oxy," when an empty tomato can will do you just as much good? As an outlet for the interest aroused, the paper has definite suggestions in line of legislation. A challenge to the state authorities to take action against local fraud; a plea in the name of humanity for a bill against fraudulent advertising—these, with definite facts concerning actual fakes, *Detroit Saturday Night* offers as part of its share in the effort to

> . . . help to save mankind
> Till public wrong be crumbled into dust.

MORPHIN AND CONSTIPATION

The constipating effect of opium and morphin is a feature in the action of these drugs that has long been known to physicians, but the explanation or interpretation of its occurrence has not been so apparent. Undoubtedly, as so often happens when conflicting experiences and puzzling situations are involved, there is more than one factor at work to explain the ultimate phenomenon. The experiments of Magnus in particular have shown that a prominent feature in the action of morphin on the gastro-intestinal tract consists in the marked retardation of the discharge of contents from the stomach. As a result, the passage of food into the intestine is decidedly delayed, and consequently the ordinary stimuli for peristaltic activity in the intestine are decreased. The temporary inhibition of the secretion of the fluids pouring into the alimentary tract has also been reported. Despite the unquestionable importance of such retardations in leading to constipation, they scarcely seem adequate to explain entirely the familiar facts of clinical experience. The question is accordingly raised whether the opium products do not exercise some direct sedative influence on the lower bowel itself. It has been maintained by Padtberg, for example, that the vigorous peristalsis of the small and large intestine induced by colocynth can be checked by morphin. But even these suggestions of influences exerted on the lower bowel in addition to the undoubted effects on the stomach can scarcely account for the clinically recognized manifestations of constipation induced by the use of the opium alkaloids. Some other pharmacologic influence must be at work; accordingly it has been suggested that a diminution, or even occasional disappearance, of the reflexes of defecation[1] is brought about. This idea is supported by the observations, easily made on human subjects, that even when the feces are of semisolid consistency, and presumable occasion for their discharge manifests itself, the final act of defecation may be delayed for hours through the action of opium. The constipative manifestations of this drug are thus at length referred in some way to the very end of the gastro-intestinal apparatus.

IN THE OPEN AT LAST

A bill has been introduced into the Illinois legislature by Mr. Hurburgh to regulate objectionable advertising. It is aimed specifically at the "lost-manhood" type of advertisement and makes such advertising a misdemeanor for which both the advertiser and the publisher may be punished. The bill has been favorably commented on by the decent newspapers of the state and has just passed the senate by a vote of 35 to 6. It is opposed, of course, by the quacks and those whose interests lie in that direction. Here is a circular letter sent out by a company that owes its fortune to careless and uncritical members of the medical profession. It is being sent to the druggists of the state of Illinois and deserves a careful reading:

> We respectfully call your attention to Illinois S. B. No. 481 by Mr. Hurburgh designed to stop the advertising and sale in Illinois of a large number of valuable remedies for the treatment of certain diseases. This Bill, *introduced by the doctors*, is occasioned by the fact that *the advertised remedies are equally as successful as the doctors in the treatment of the diseases named* and at infinitely less cost to the patient; thus depriving the doctors of what they consider their perquisites. There is no demand by the people for this legislation and it is only an entering wedge for *the doctor, who claims a monopoly of all healing* and would, if he could prevent the sale of all medicines except on a prescription furnished by him.
>
> This bill does not affect us, as we do not manufacture and have no interest in such remedies but we believe it should be opposed because it offers a precedent for worse legislation along the same lines.
>
> Trusting that you will write your Senators and Representatives at once, asking them to vote against legislation of this nature which will benefit only one class of individuals at the expense of the whole people, we remain
>
> Sincerely yours,
> THE ANTIKAMNIA CHEMICAL COMPANY.

We have italicized certain portions of this letter for the purpose of emphasizing the present attitude of the Antikamnia Chemical Company. This company, as we have already said, is an expensive monument to the poor

1. See Shapiro, N.: Ueber die Wirkung von Morphium, Opium und Pantopon auf die Bewegungen des Magen-Darm-Tractus des Menschen und des Tieres, Arch. f. d. ges. Physiol., 1913, cli, 65.

judgment of the medical profession and to the venality of a portion of the medical press. For a good many years, a certain proportion of the profession has not been able to satisfy itself that the Antikamnia Chemical Company was not only antagonistic to the ideals of medicine but also antagonistic to the profession itself. The letter we have just given should be sufficient to convince even the most charitable. By it the company places itself squarely on record, and by lining itself up with the "lost-manhood" quacks, it admits every allegation THE JOURNAL has made regarding it for the past ten years.

LAZARUS AND DIVES

Despite much that has been said and written to the contrary, health conditions in American cities, as elsewhere in civilization, are improving, if diminished death-rates are a criterion. And yet health conditions in our great cities are not good enough to satisfy the humanitarian — at any rate those conditions which accompany or follow the gravest social and economic diseases of the body politic. At a recent woman's industrial exhibition were placards showing disease-engendering conditions: obviously insanitary sweat-shops, in which consumptives work on underwear, shirtwaists, bed- and table-linen, lace collars and other garments, to be sold on the bargain counter, and to be introduced with all their germ-content into other homes. A placard bore a doctor's statement: "I have found 182 families, 179 with contagious disease, doing this tenement work." Nicely bottled pecans are sold as titbits for the well-to-do; in this exhibition were photographs of a mother and two children in a squalid room cracking the nuts, one of the children facilitating the work by using its teeth. By such poor women and little children also (often illegally kept from school) are bristles put into hair-brushes, artificial flowers made and paper cigarette tubes rolled — and licked. One of the most melancholy aspects of our civilization is the pay for sweat-shop work: $1 a dozen for skilled work at gloves for which the retailer charges $3 a pair; 30 cents for four hours' crocheting of a hand-bag which sells for $1.50. In 204 inspected homes, 25 per cent. of the workers were between 5 and 10 years of age; nearly half were under 14; a fourth of the children worked five hours or more a day after school; three-fourths of these home-working families earned less than 10 cents an hour altogether. In the end, however, the consumer not infrequently must pay an awful price in sickness and in death for "bargains" prepared under such pitiless and often pestilent conditions. Well indeed has Dr. Solomon Solis-Cohen observed that "the poverty of Lazarus makes itself felt in the house of Dives"; yes, and his infections also!

FRESH BREAD FORTY HOURS OLD

Bread kept under ordinary conditions rapidly becomes stale or dry, so that persons who do not fancy the staff of life in that particular physical state must have bread within a few hours after it is baked. A method of preventing bread from becoming stale would therefore be an epicurean and economic advantage; it would not only contribute to the gustatory requirements of the fastidious, but also prevent considerable loss to the baker and the consumer. Dr. J. R. Katz[1] of the University of Amsterdam is said to have stated that bread kept at either a low or a high temperature is preserved fresh for some days at least. In his experiment bread was kept absolutely fresh for more than forty hours at a temperature of 140 F. (60 C.). At a temperature of from 86 to 104 F. (30 to 40 C.), it became only half stale, and became fresh again at a temperature below freezing. Dr. Katz therefore recommends that bread be kept at a temperature of 122 F. (50 C.) and upward, which will keep the crumb fresh, while the crust will become soft by the absorption of moisture. If the bread is put back into the oven for a short time the water will be driven off from the crust and the bread will become crisp again. The bread may also be kept in cold-storage rooms at sufficiently low temperatures, when if the air is sufficiently dry the crust will remain hard and crisp, so that it will retain all the characteristics of new bread for a considerable time.

CORRESPONDENCE SCHOOLS FOR NURSES

The idea of correspondence school instruction has had remarkable growth in recent years. For certain subjects, such as history and literature, it may be adequate, although even here it numbers among its disadvantages lack of the stimulus that comes from personal contact with the instructor and class. There are other branches, however, which can never be really taught by correspondence. Nursing, emphatically, is one of these. This is an age of practical methods, and there is no subject to which such methods should be more strictly applied than to that of nursing. A certain amount of theoretical knowledge can be gained from the text-book, such as the location of the different organs of the body and the names and uses of certain drugs — an exceedingly small part of a nurse's training. No one can learn to be a nurse by reading text-books or lesson sheets, or by hearing descriptions of methods of handling cases. The nurse must learn to recognize conditions by seeing them, to differentiate among symptoms by comparing them and to do by doing — all this not once but many times. Many of the young women who plan to become nurses do not know these facts. They are led by the alluring advertisements in journals and magazines to take the course which promises to lead easily and cheaply to the desired end. They will be disappointed when they discover, after the completion of their courses with these correspondence schools, that they cannot register their diplomas, that they are not competent to act as nurses, that they will not have the standing of those practically trained, and that the physicians of standing in their communities will refuse to employ or recommend them. And yet the number of correspondence schools for nursing is increasing and the quality decreasing. The methods of some, perhaps, may be regarded as honorable, but there are few of these. The other kind is multiplying. The methods of one — the Rhode Island College of Nursing — we discussed in a recent issue.[2] Since then physi-

1. Scientific American, May 10, 1913.
2. The Doctor Again Picked Out for an Easy Mark. Current Comment, THE JOURNAL A. M. A., Feb. 22, 1913, p. 600.

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cians who have been consulted by those desiring to take up nursing have written us concerning the National College of Nursing of Elmira, N. Y. This concern seems to have peculiarities of its own. It plans to make use of physicians as an advertising medium, and will do this by appointing physicians as "consultants and medical examiners." The circular letter to doctors says: "For each applicant examined by you and accepted by the school, we shall send you, from the first remittance received, a check for $5 as compensation for your examination or advice. If the applicant originates with you, we shall send you $10." There are other evidences which will compel even the most charitable to believe that such an institution is not conducted in accordance with the highest ideals. It is the duty of physicians to discourage those who contemplate taking a correspondence course in nursing. In the end women so taught will be a disappointment to themselves, an irritation to physicians and a danger to the public.

NEWSPAPERS AND SUICIDE

A few days ago a Mr. Walker of Macon, Ga., mistaking it for a headache tablet, swallowed an antiseptic tablet containing 7 grains of bichlorid of mercury. The newspaper announcements said that he vomited soon afterward, and that his stomach was washed out. Hence the probability is that the man retained barely a fatal dose, and therefore lived longer than he would have lived had the full amount of mercury taken been retained. This case was not an unusual one. Although such accidents have occurred many times, this case was "featured" by the newspapers of the country day after day, and the idea conveyed that Mr. Walker was having a good time although knowing that he was going to die. Of course the "stories" were embellished to make good reading. As might have been expected, the suggestion has had its effect on despondent waverers, and suicides by this method are now being reported; in fact, before Mr. Walker had died a Chicago paper announced one. It is a pity that the sense of responsibility to the public is so little developed in the editors (or those responsible for the policy) of such papers as those that "featured" the Walker accident. One of our most prominent dailies recently published a cartoon ridiculing the federal senate "pure news bill" designed to prevent the publication of unwholesome news. The sensational press is doing its best to hasten the day of such legislation.

THE LAY PRESS CORRECTLY CLASSIFIES FRIEDMANN

A poll of the press on the Friedmann commercialism is decidedly reassuring. There were not a few newspapers which, just after Friedmann arrived, criticized the physicians and the state laws for not freely granting him a license to practice, but the conservative course of conduct has been fully vindicated. Friedmann is now classified almost with unanimity as having fallen from grace. The Topeka (Kan.) *Capitol* calls the Friedmann deal "a surprising error in judgment." "While he may be a benefactor of humanity," says the St. Paul (Minn.) *Pioneer Press*, "he is primarily a benefactor of himself." "Friedmann has shown himself possessed of high commercial ability," remarks the New York *Call*. "He saw his opportunity, took it, and it is probable that he has got away with the money. The real worth of his discovery is important only to consumptives—and in mercantile affairs they do not count for anything except as consumers. And in this case, as in others, let the buyer beware." The Peoria (Ill.) *Star* says that "the general opinion is that Dr. Friedmann is a humbug." "Deplorable," exclaims the Pittsburgh (Pa.) *Press*. The Baltimore *Sun* comments on his "cold-bloodedness" and "willingness to make humanity a mere matter of traffic," while the Holland (Mich.) *Sentinel* wonders if Friedmann "is to end up as a patent-medicine man" and declares that "he has vindicated the skepticism of the ethical profession" and "has perpetrated a cruel hoax on the American public." Unkindest cut of all, the Scranton (Pa.) *Republican* recommends the issuance of a "fraud order directing the holding up of mail devoted to his business." We think that the average newspaper editor has sized the matter up very clearly.

Medical News

FLORIDA

New State Association Officers.—The fortieth annual meeting of the Florida Medical Association was held in Miami, May 13-15, and the following officers were elected: president, Dr. P. C. Perry, Jacksonville; vice-presidents, Drs. John G. Du Puis, Lemon City, J. C. Davis, Jr., Quincy, and W. S. Gramling, Miami; secretary-treasurer, Dr. J. D. Fernandez, Jacksonville (reelected), and librarian, Dr. W. S. Manning, Jacksonville. Orlando was selected as the place of meeting for next year.

ILLINOIS

New Officers.—Henry County Medical Society in Kewanee, May 8: president, Dr. J. A. Gustafson, Orion; secretary-treasurer, Dr. G. H. Hoffman, Kewanee.

Biology Building to be Erected.—A fund of $100,000 is to be secured for the erection of a building at Rockford College in commemoration of Clara Barton, and for the endowment of a scholarship of biology and bacteriology in that institution.

New Officers.—Mercer County Medical Society at Aledo, May 13: president, Dr. R. H. Smith, Seaton; secretary-treasurer, Dr. A. N. Mackey, Aledo.——Grundy County Medical Association at Morris, May 13: president, Dr. C. D. Allison, South Wilmington.

Award Made to Physician.—In the case of Dr. R. M. Curtis, Marengo, against McHenry County, in which a sum in excess of $5,000 was claimed on account of service during a small-pox epidemic, the jury found in favor of the plaintiff, awarding him $1,500 for his services.

Buys Site for Sanatorium.—Dr. George W. Michell has purchased 100 acres of land at Prospect Heights, Peoria, from Dr. George A. Zeller, as a site for the new building of the Peoria Sanitarium. The new institution is to cost $50,000 and will be arranged on the cottage system.

Hospital Notes.—A tuberculosis sanatorium for La Salle County is to be erected on the county farm at a cost of $2,400.——The site for the municipal sanatorium for Rock Island has been abandoned on account of the opposition of the residents.——The new St. Joseph's Hospital, Aurora, was dedicated with impressive ceremonies, May 25. Bishop Muldoon of Rockford made the dedicatory address.

Chicago

Hospital Dedicated.—The Sarah Morris Hospital for Children at Twenty-Ninth Street and Groveland Avenue, made possible by a bequest of $300,000 by Mrs. Sarah Morris, was dedicated May 25. A public reception was held between 2 and 6 p. m. The hospital has 125 beds for the care of sick

children, and, while primarily a free hospital, has accommodation for a limited number of pay patients.

Personal.—Dr. and Mrs. Thomas J. O'Malley, Dr. and Mrs. A. E. Lundgren and Dr. and Mrs. George de Tarnowsky have sailed for Europe.——Dr. Mortimer Frank has returned from Europe.——Dr. Julius Grinker has been appointed a member of the attending staff of Cook County Hospital in the department of nervous and mental diseases.——Dr. C. W. Imwall has been elected surgeon of the West Side Hospital.

INDIANA

New Officers.—Eighth District Medical Society at Muncie, May 8: president, Dr. U. G. Poland, Muncie; secretary-treasurer, Dr. Fred McK. Ruby, Union City.——Lagrange County Medical Society at Lagrange: president, Dr. William H. Short, Lagrange; secretary, Dr. Alfred A. Wade, Howe.

The Work Against Tuberculosis.—At a meeting of the Fort Wayne Antituberculosis Society, May 3, Drs. George W. Gillie, E. M. Van Buskirk, Eric A. Cruft and C. G. Beall were appointed a committee to formulate plans for the establishment of a tuberculosis camp on ground donated by the Allen County Board of Commissioners. The colony will be able to accommodate twenty patients.——The Elkhart County Antituberculosis Society at its recent meeting in Elkhart, decided to erect four cottages, two in Elkhart and two in Goshen, for tuberculosis patients. The cottages will be erected on the standard plans adopted by the State Society.——The new hospital of the Boehne Tuberculosis Farm, Evansville, was dedicated May 18. The hospital has four wards and ten private rooms and there are at present seventeen inmates.——The Tuberculosis Crusaders of Madison County have been incorporated by Dr. Etta Charles, Summitville; S. C. Norris, Anderson, and others.

IOWA

New Officers for Woman's Medical Society.—At the sixteenth annual meeting of the State Society of Iowa Medical Women, held in Des Moines, May 6, Dr. Florence Sherbon, Colfax, was elected president; Dr. Jeanette F. Throckmorton, Chariton, first vice-president; Dr. G. T. Dulin, Sigourney, second vice president; Dr. Clara B. Whitmore, Cedar Rapids, secretary, and Dr. Grace F. H. Jerger, Waterloo, treasurer.

State Society Meeting.—At the sixty-second annual meeting of the Iowa State Medical Society held in Des Moines, May 7-9, the following officers were elected: president, Dr. Lee Wallace Dean, Iowa City; vice-president, Dr. S. A. Spillman, Ottumwa; delegate to the American Medical Association, Dr. J. C. Rockafellow, Des Moines; alternate, Dr. C. S. James, Centerville; trustee, Dr. G. N. Ryan, Des Moines; councilor, fifth district, Dr. G. E. Crawford, Cedar Rapids, and sixth district, Dr. H. C. Eschbach, Albia. Sioux City was chosen as the next place of meeting.

MARYLAND

Baltimore

Lecture on Plague.—Dr. C. W. Young, professor of pathology and bacteriology in the Peking China Union Medical College, lectured on the plague epidemic in Manchuria, May 18.

Osler Translated into Chinese.—Dr. Francis J. Hall, a member of the faculty of the Peking China Union Medical College, is preparing for publication the second Chinese edition of Osler's "Practice of Medicine."

Brady Urologic Clinic.—Plans of the James Buchanan Brady Urologic Clinic at Johns Hopkins Hospital call for a five-story brick building, accommodating sixty patients. It will be situated on the Monument Street site, next to the surgical building.

New Building for Hospital.—Ground will be broken July 1, on a lot adjoining the old South Baltimore Eye, Ear, Nose and Throat Hospital for the new building which will be fire proof, three stories and a basement in height, 63 by 83 feet, with a roof garden.

Memorial to Billings.—The Johns Hopkins Hospital Medical Club held a special meeting in memory of the late Dr. John S. Billings, May 26, at which addresses were made by Dr. William H. Welch, William S. Halstead and Winford Smith.

MASSACHUSETTS

Personal.—Dr. Walter E. Fernald, superintendent of the State School for Feeble-Minded, Waverly, has been appointed head of the legislative commission to investigate the white-slave traffic.——Dr. L. G. Mead, Watertown, has been appointed contract surgeon at the Watertown Arsenal.

Summer Graduate Course at Harvard.—A summer graduate course in medicine at Harvard Medical School will begin June 1, extending to September 30. The monthly announcement shows that five hundred different courses, including almost every branch in the medical curriculum, are offered.

New Officers.—Bristol South District Medical Society at New Bedford; secretary-treasurer, Dr. A. B. Cushman, South Dartmouth; secretary-treasurer, Dr. A. J. Abbe, Fall River.——Franklin District Medical Society at Shelburne Falls, May 13: president, Dr. C. F. Canedy, Shelburne Falls; secretary-treasurer, Dr. Webster K. Clark, Greenfield.

Hospital News.—The Methodist Episcopal Church is planning to purchase the Attleboro Sanatorium. Subscriptions amounting to $35,000 have already been made and an active campaign is being carried on to secure the $81,000 additional required to complete the purchase.——The new Board of Health Hospital for Isolation Cases. The institution will be able to accommodate twenty-six patients.

MISSOURI

Sanatorium Site Offered.—The Missouri Society for the Relief and Prevention of Tuberculosis has received an offer of forty acres of land in St. Louis County as a site for a sanatorium for children suffering from tuberculosis of the bones.

New Officers.—Linton District Medical Society at Mexico, May 6: president, Dr. J. Frank Harrison; secretary, Dr. Harry W. Gibbs, both of Mexico.——South West Missouri Medical Society at Springfield, May 8-9: president, Dr. A. H. Madry, Aurora; secretary, Dr. H. S. Hill, Springfield (reelected).——Jackson County Medical Society, eye, ear, nose and throat section, at Kansas City, May 8: chairman, Dr. Hal Foster; secretary, Dr. R. J. Curdy, both of Kansas City.

Sanatorium Board Meets.—The board of managers of the Missouri State Sanatorium for Tuberculosis, Mount Vernon, met May 10 and elected Dr. J. L. Eaton, Bismarck, president; Dr. C. T. Dusenbury, Monett, secretary; Dr. E. W. Schauffler, Kansas City, medical director; Dr. B. Hughes, Keytesville, superintendent and Dr. C. C. English, Mount Vernon, assistant superintendent. The board decided to begin at once the erection of the new building for which $35,000 was appropriated by the last legislature.

Personal.—Dr. C. L. Woolsey, Braymer, has been appointed assistant physician at State Hospital No. 2, St. Joseph.——Dr. John Stewart, formerly superintendent of the Missouri State Sanatorium for Tuberculosis, Mount Vernon, has accepted the superintendency of the Arkansas State Sanatorium for Incipient Tuberculosis, Booneville.——Dr. B. W. Harris, Georgetown, is reported to be critically ill with uremia.——Dr. E. E. Evans, Columbia, has been appointed superintendent at State Hospital No. 3, Fulton, vice Dr. D. E. Singleton, Fulton, who will locate in Keytesville.——Dr. George A. Still, Kirksville, sailed for Europe, May 1.

MONTANA

Personal.—Dr. Edward F. Maginn, Butte, has been appointed a member of the State Board of Health, vice Dr. C. T. Pigot, Roundup, and Dr. Daniel J. Donohue, Glendive, has been reappointed a member.——Dr. James P. Aylen, Missoula, has been appointed general surgeon for the Northern Pacific system.

New State Association Officers.—At the thirty-fifth annual meeting of the Montana State Medical Association held in Great Falls, May 14-15, the following officers were elected: president, Dr. W. P. Mills, Missoula; vice-presidents, Drs. J. H. Irwin, Great Falls, E. G. Balsam, Billings, and S. A. Cooney, Helena; secretary, Dr. Herbert D. Kistler, Butte (reelected); treasurer, Dr. C. C. Wallin, Lewistown, and delegate to the American Medical Association, Dr. LeRoy Southmayd, Great Falls. Lewistown was selected as the place of meeting for 1914.

NEBRASKA

New Officers.—Buffalo County Medical Society at Kearney May 3: president, Dr. H. S. Bell; secretary-treasurer, Dr. J. S Blanchard.

Bridges in Charge.—Dr. W. O. Bridges, dean of the Omaha Medical College, will hereafter have full charge of the institution in Omaha. Dean R. H. Wolcott will remain in Lincoln where he will have charge of the junior medical classes.

NEW HAMPSHIRE

State Society Meeting.—At the twenty-second annual meeting of the New Hampshire Medical Society held in Concord, May 13-14, the following officers were elected: president, Dr. Abram W. Mitchell, Epping; vice-president, Dr. H. K. Faulkner, Keene; treasurer, Dr. Charles R. Walker, Concord, and delegate to the American Medical Association, Dr. Irving A. Watson, Concord.

NEW JERSEY

Reunion at State Society Meeting.—There will be a reunion of graduates of the University of Pennsylvania at the new Hotel Monmouth, Spring Lake, June 10, on the occasion of the annual meeting of the Medical Society of New Jersey. Dr. Alexander McAlister, Camden, is president and Dr. Hyman I. Goldstein, Camden, secretary of the committee of arrangements.

Personal.—Dr. William J. Burd, Belvidere, is reported to be seriously ill from the effects of an overdose of antitetanic serum.——Dr. Vittorio Risicato, Morristown, fractured his skull in an automobile accident in Albany, May 9.——Dr. A. Jones, assistant physician at the New Jersey State Hospital for the Insane, Trenton, has resigned to accept a similar position at Bay View, Baltimore.——Dr. G. H. Balleray, Paterson, was the guest of honor at a dinner tendered by members of the Passaic County Medical Society, May 14.

NEW YORK

Typhus on Long Island.—A case of typhus is reported at East Hampton, L. I., and the surgeon-general of the U. S. Public Health Service has been notified.

Tuberculosis Hospital Nearly Ready.—The Montgomery County Tuberculosis Hospital now being erected on the Hobbs Farm, just east of Amsterdam, will be ready for occupancy by the first of July.

Urge Tuberculosis Hospital.—The physicians of Rockland County are urging the necessity of a tuberculosis hospital for that county and have sent a petition to the board of supervisors recommending the erection of such a hospital and setting forth the need of such an institution in that county.

New Officers.—Albany County Medical Society at Albany, May 14: president, Dr. James F. Rooney; secretary, Dr. Frederick C. Conway, both of Albany.——Steuben County Medical Society, ninety-eighth annual meeting at Bath, May 13: president, Dr. Douglas H. Smith, Bath; secretary-treasurer, Dr. B. R. Wakemann, Hornell.

Personal.—Dr. James A. Hawley, Canandaigua, has retired after more than half a century of active practice.——Dr. Roswell Park, Buffalo, has returned from a visit to the Canal Zone.——Dr. Montgomery E. Leary has been placed in charge of the hospital and ambulance corps to be maintained during the Elks' Convention in Rochester.——Dr. Walter M. Litchfield, Salamanca, was seriously injured in a collision between his automobile and another car, near Elkdale, May 8.

New York City

New Officers.—Flatbush Medical Society, May 9: president, Dr. Thomas B. Hegeman; treasurer, Dr. Morris W. Henry, both of Brooklyn.

Half Million Wanted for Academy.—A circular pamphlet has been issued by the New York Academy of Medicine setting forth the need of a new building for that body and appealing to the public to make it possible. The fellows of the Academy have pledged $124,000 toward the purchase, and the academy's equity in its real estate is valued at $376,000.

For New Orthopedic Hospital.—The New York Orthopedic Dispensary and Hospital has bought a site having a frontage of 145.11 feet on East Fifty-Eighth Street and of 87.11 feet on Fifty-Ninth Street on which it proposes to erect a new building. All property leases have been cancelled so that building operations may be begun at once.

Chapel for Tuberculosis Patients.—The Chapel of the Sacred Heart, in connection with the Antituberculosis Sanatorium on Blackwells Island, was dedicated by Cardinal Farley, May 18. The edifice has antiseptic provisions. Gauze curtains, hung in the confessionals, are to be changed every hour when confessions are held. The chapel has been erected at a cost of $75,000.——The formal opening of new clinics of the Long Island Hospital took place at the Polhemus Memorial Clinic, May 20.

Memorial Service.—The annual memorial service for deceased members of the Medical Society of the County of Kings, was held in the Library Building, Brooklyn, May 18. The deceased members whose memory was honored were: Drs. Victor Seymour Pier, Herbert Cooper Rogers, William Frederick Dudley, William Frederick Rex, Edward Leroy Oatman, Robert Bradlee Welton, Keran O'Brien, Ernest Palmer, William Foster Ganster, Philip Hanson Hiss, Jr., John Davies Trezise, Algernon Thomas Bristow, Frank Little, James Tabor Burdick, John Wright Ostrander, Thomas Wilson Topham, Isaac Hull Platt, Henry George Small, William James Callan, William Arthur Little, Eugene Joseph Carolan, John Herman Droge and James Lester Carney.

Another Organization to Fight Cancer.—To start a campaign of publicity against cancer, delegates from various associations, the American Dermatological Association, the American Laryngological Association, the American Otological Association, the American Gynecological Society, etc., met recently at the Harvard Club and elected the following officers: president, George C. Clark, New York City; vice-presidents, Dr. Clement Cleveland, New York City; Dr. Lewis S. McMurtry, Louisville, Ky.; Dr. Edward Reynolds, Boston; Dr. Edward Martin, Philadelphia; Dr. Llewellys F. Barker, Baltimore; secretary, Thomas M. Debevoise, New York City. Other societies interested in cancer problems will be asked to take part in the campaign. The plan of the organization is to enlighten American women on cancer by articles in women's magazines and journals of nursing, by pamphlets distributed by nurses, social workers, physicians and women's clubs, by instruction in nurses' training schools and by lectures before women's clubs. This new organization seems therefore to cover the same ground as other preexisting bodies, in the formation of which some of the same delegates and associations have cooperated. A movement is already on foot to correlate or amalgamate all these bodies into one effective National Anti-Cancer League.

NORTH CAROLINA

Personal.—Dr. T. F. Reynolds has been elected mayor of Canton.——Dr. Charles T. Nesbitt, Wilmington, has been elected chief of the combined city and county health departments.——Fire on April 28 destroyed a building in Newbern owned by Dr. Frank Hughes, with a loss estimated at $10,000.——Dr. L. J. Picot, formerly superintendent of the Raleigh State Hospital, will resume practice in Littleton.

NORTH DAKOTA

State Tuberculosis Sanatorium.—The State Board of Control of Penal and Charitable Institutions has recently inspected the State Tuberculosis Farm, Dunseith, which is almost ready to be turned over to the state. The sanatorium is ideally located and everything in excellent condition. Dr. John G. Lamont is superintendent of the institution.

State Association Meeting.—The twenty-sixth annual meeting of the North Dakota State Medical Association was held in Minot, May 7-8, and the following officers were elected: president, Dr. Murdock MacGregor, Fargo; vice-presidents, Drs. R. H. Beck, Lakota, Victor Hugo Stickney, Minot; secretary, Dr. H. J. Rowe, Casselton (reelected); treasurer, Dr. C. S. Crane, Grand Forks; councilors, Drs. L. B. Greene, Monango, G. F. Drew, Devils Lake, J. T. Newlove, Minot, and J. E. Countryman, Grafton; delegate to the American Medical Association, Dr. James Grassick, Grand Forks, and alternate, Dr. Blake M. Lancaster, Crosby.

OHIO

New Officers.—Morrow County Medical Society at Mount Gilead, May 14: president, Dr. W. L. Case; secretary, Dr. T. P. Johnston, both of Mount Gilead.

Fund for German Hospital.—The cash receipts for the General Hospital, Cleveland, thus far amount to more than $38,000. The executive committee has purchased the property of the Home of the Friendless for $19,000, and the erection of a new building for nurses is to be commenced very soon.

Personal.—Dr. R. H. Bishop, Jr., chief of the tuberculosis bureau of the Cleveland Health Department and secretary of the local Antituberculosis League, has been appointed superintendent of the new Municipal Tuberculosis Sanatorium, Warrensville.——Dr. John R. Johnson, Lima, has succeeded Dr. J. W. Costolo as superintendent of the District Tuberculosis Sanatorium, Lima.——Dr. Frank Oakley, Cleveland, is studying in Berlin.

University Accepts Medical School.—An authentic report states that the Ohio State University has accepted the offer of the Starling-Ohio Medical College, making the latter an

integral part of the university as its medical department. The present organization of the medical school will be continued, however, during the present year. By this merger the Protestant and St. Francis hospitals will be under the general supervision of the university.

Cincinnati

Gifts to Medical College.—Mrs. Mary Emery has contributed $125,000 to the Ohio-Miami Medical College of the University of Cincinnati for the endowment of a chair of pathology. A sum of about $80,000 from the estate of Dr. Francis Brunning has also been received by the university, the income of which will be used for the endowment of a second chair.

OKLAHOMA

New Officers for State Association.—The Oklahoma State Medical Association held its annual meeting in Enid, May 13-15, and elected the following officers: president, Dr. J. M. Byrum, Shawnee; vice-presidents, Drs. LeRoy Long, McAlester, J. T. Slover, Sulphur, and J. H. Barnes, Enid; secretary, Dr. Claude A. Thompson, Muskogee (reelected), and delegate to the American Medical Association, Dr. W. E. Wright, Tulsa. Guthrie was selected as the next place of meeting.

PENNSYLVANIA

Hospital Notes.—A permit has been issued for the new addition to the Hamot Hospital, Erie, six stories, 45 by 144 feet, fire-proof and costing $158,000.

Honor Venerable Physician.—The Susquehanna County Medical Society in connection with its meeting at Montrose, May 6, gave a banquet, commemorative of the ninetieth birthday anniversary of Dr. Calvin C. Halsey, Montrose.

Insanity Experts Meet.—The semi-annual convention of the Association of Trustees and Superintendents of the Insane and Feeble-Minded of Pennsylvania, of which Dr. J. M. Murdock, the superintendent at Polk, is president, met at the Rittersville Hospital, May 22. A symposium on maniac depressive insanity was held and addresses were made by the following men: Drs. C. R. McKinnis of Norristown; H. Mitchell, superintendent at Warren; Owen Copp and J. Allen Jackson, of the Pennsylvania Hospital for the Insane at Philadelphia; H. B. Meredith, superintendent at Danville, and Henry W. Klopp, superintendent at Rittersville. Afterward the visitors were the guest of the board of trustees of Rittersville.

Women Demand Clean Food.—The women's clubs of Landowne have notified storekeepers that they must have clean shops and must protect food from dirt and flies. The Civic Club of Merion and the club at Swarthmore are preparing for similar crusades. At Landowne, the work has been going on for the last two years, the first agitation being made against the bakers and dealers, forcing them to deliver bread in waxed paper. Committees were formed in the various clubs and visits made to the sources of the town's food supply and 90 per cent. of the shops were found to make no provision against flies and dirt. Shops were even cleaned without covering food in any way.

Personal.—Dr. P. J. Eaton, Pittsburgh, was elected president of the Associated Harvard Clubs, May 24.——Dr. S. P. Mengel, Parsons, has been appointed a member of the Wilkes-Barre Hospital staff, vice Dr. Alexander Gray Fell, deceased.——Dr. James T. Williams has been appointed associate surgeon on the staff of the Wilkes-Barre City Hospital.——Dr. Nathaniel Ross, Wilkes-Barre, has been elected grand commander of the Knights of Malta of Pennsylvania.——Dr. Hugh Baker, Connellsville, who has been seriously ill with septicemia, due to an operation wound, is reported improving.——Drs. E. B. Edie, H. C. Hoffman and E. C. Sherrick have been appointed members of the staff of the Cottage State Hospital, Connellsville.——Dr. Harold L. Foss has been appointed surgeon in chief of the George F. Geisinger Memorial Hospital, Danville.

To Bar New Insane Patients from Blockley.—Acting on the advice of City Solicitor Ryan, Dr. Joseph S. Neff, director of Public Health and Charities, announced on May 12, that no additional indigent insane patients will be received at the Philadelphia General Hospital, which is overcrowded, but that they will be committed to the Norristown State Hospital. This is the first step in the direction of forcing the state to assume its duties in providing for the insane. The lunacy committee has a rule that transfers to Norristown cannot be made without the consent of two members of that committee. City Solicitor Ryan declares that the rule is invalid as it applies to the director of the department of health and charities, since the act of **May 8, 1883**, provides that the rules of the lunacy committee shall not be inconsistent with the acts of assembly. Section 10 of the act of 1876 gives the guardians of the poor complete authority to commit patients to Norristown. On May 21, six insane patients were sent to the Norristown Insane Asylum, under commitments signed by Dr. Neff of the department of public health and charities. It was the first time that the director had exercised the power of commitment since obtaining the advice from City Solicitor Ryan. The asylum authorities recognized the validity of the commitment.

Philadelphia

Personal.—Dr. C. N. Sturtevant was exonerated May 20, by a coroner's jury, of blame for causing the death of a small boy, run down by his automobile on May 15.

Physicians' Outing.—The first annual outing and shad dinner of the South Branch of the Philadelphia County Medical Society was held at Essington, May 23. Following the dinner, which was served in a pavilion overlooking the Delaware, an address was made by Dr. Hobart A. Hare.

Phipps Institute Sold.—On May 21, Jefferson Medical College took title to the properties 236-8 Pine Street, occupied for several years by the Phipps Institute. They will be utilized as a ward for the treatment of tuberculosis; this new department is to be under the supervision of Dr. Thomas McCrae.

Gift for Research Fellowship in Medicine.—At the monthly meeting of the board of trustees of the University of Pennsylvania, May 12, announcement was made of a gift of $10,000 by Stevens Heckscher to establish a fellowship in medical research. The fellowship is to be a memorial to Mr. Heckscher's wife. The presentation was made through Dr. Alfred Stengel, professor of medicine.

St. Agnes' Silver Jubilee.—Archbishop Prendergast and prominent Catholic clergymen took part in the impressive celebration of the silver jubilee of St. Agnes' Hospital. The large chapel was magnificently decorated with flowers and the altar gleamed with lighted candles. The archbishop presided at the high mass which began at 9 a. m., May 11. The hospital's visiting staff of physicians and surgeons, resident doctors and nurses were present.

Alumnae to Meet.—The Alumnae Association of the Woman's Medical College of Pennsylvania, Philadelphia, will hold its thirty-eighth annual meeting at the college building, June 5-6, under the presidency of Dr. Eleanor C. Jones. The annual reception and dinner will be held at the Acorn Club at 7:45 p. m., June 5. It will be presided over by Dr. Kate Campbell Hurd Mead, Middletown, Conn. Business sessions will be held in the mornings and on the last afternoon; clinics are to be given on both mornings at the women's hospitals, and scientific sessions will be held mornings and afternoons.

City to Give Pasteurizing Course to Milk Dealers.—On May 26, the department of health and charities will inaugurate one of the most significant movements for the protection of the city's health, when it institutes a course of lessons in pasteurizing to be given to 125 milk dealers operating pasteurizing plants. It is the first time that the municipal laboratory has been used as a place for public demonstration and it is the first time that the Bureau of Health has put its research at the command of commercial men. The course of lectures and demonstrations will be held daily at 4 p. m. for eight days beginning May 26, at Room 715, City Hall, and invitations have been sent to more than 1,000 milk dealers.

Baby Saving Shows.—Besides the Baby Saving Show, under the auspices of the Child Hygiene Association, which is now open daily at the Nicetown Boys' Club, Hunting Park Avenue and Clarissa Street, a series of clinics, arranged by the Children's Homeopathic Hospital, are held Tuesday afternoon at the St. Stephen's Methodist Church, Germantown. Two physicians and two nurses are present to teach mothers care and feeding of babies, and a social visitor under the direction of the doctors will see that instructions are carried out. Also Gimbel Bros. have fitted up a room in their large department store, where a trained nurse instructs mothers in bathing and dressing babies.

Pennsylvania Hospital Short of Funds.—At the annual meeting of the contributors of the Pennsylvania Hospital, May 5, one of the trustees declared the institution now has a deficit of $450,000, the hospital going $50,000 behind in its running expenses during the last year. In the main this is due to improvements made to the insane department in West Phil-

adelphia. West Philadelphia business men have formed a tentative organization, which has for one of its chief objects the removal of Kirkbride's Institution. In their annual reports, Mr. Rosengarten, trustee of the Pennsylvania Hospital and Owen Copp, superintendent of the insane department, advanced reasons why this department should not be removed. Since its organization, Kirkbride's has treated 18,000 patients, 700 of whom have been permanently cured and 4,000 helped so that they could return to their homes. During the past year, the Pennsylvania Hospital treated a total of 125,995 patients and there were 64,178 visits in the outpatient department.

VERMONT

State Board Election.—At the annual election of the State Board of Health, Dr. C. S. Caverly, Rutland, was elected president, and Dr. F. T. Kidder, Woodstock, Burlington, treasurer. Dr. C. F. Dalton, Burlington, is secretary of the board and Dr. Henry D. Holton, Brattleboro, the other member.

Mental Hygiene Conference.—A mental hygiene exhibit and conference was held in Rutland, May 19-23, under the auspices of the National Committee for Mental Hygiene. The local committee was headed by Dr. Ray E. Smith, Rutland. In addition to the exhibit, which was open for twelve hours each day, there were public meetings held on Monday evening and the afternoons and evenings of Wednesday, Thursday and Friday, at which the protection of the mental health of the public; the raising of the standard of care for those threatened with or suffering from mental disorders; the promotion of the study of mental disorders; the dissemination of knowledge concerning their causes, treatment and prevention, the securing of reliable data regarding conditions and methods of dealing with mental disorders; the enlistment of the aid of the federal government and the coordination of existing agencies and the organization of state societies for mental hygiene, were discussed.

WISCONSIN

Personal.—Dr. M. L. Henderson, Milwaukee, sailed for Europe, May 10.——Dr. J. H. Hogan has been elected president and Dr. Theodore G. Brehm, secretary of the Racine Board of Health.

Medical Building for University.—The special alumni committee on the needs of the Medical School of the University of Wisconsin has recommended the construction of a medical building to house the departments of physiology, physiologic chemistry, pharmacology, toxicology and bacteriology and the State Hygienic Laboratory, and also a student infirmary.

Society Denounces Friedmann.—The Medical Society of Milwaukee County at its semi-annual meeting May 8, endorsed by resolution the report of the committee on public policy and legislation of the society, which, after discussing the claims of Dr. Friedmann, stated that it was the consensus of opinion that Dr. Friedmann's conduct with respect to his treatment has been and still is unscientific, unethical and dishonorable. The resolutions were sent to the local newspapers and used by them.

GENERAL

Meeting of Connecticut Valley Physicians.—At the annual meeting of the Connecticut Valley Medical Association held in Bellows Falls, Vt., May 13, Dr. H. K. Faulkner, Keene, N. H., was elected president; Dr. A. I. Miller, Brattleboro, Vt., vice-president, and Dr. J. Sutcliffe Hill, Bellows Falls, secretary-treasurer.

Tuberculosis Association Secretaries' Meeting.—At the annual dinner of the National Association of Secretaries of the Associations for the Study and Prevention of Tuberculosis held in Washington, May 9, Dr. R. H. Bishop, Jr., Cleveland, was elected president and George Nelbode, New York City, secretary-treasurer.

Hygiene and Public Bath Association.—The American Association for Promoting Hygiene and Public Baths met in annual session at Baltimore, May 13-15. Dr. Simon Baruch, New York City, was reelected president, Rev. Thomas M. Bedenkoph was elected vice-president and J. Leonard Mason, Newark, N. J., secretary.

American Climatological Association.—At its annual meeting in Washington, D. C., May 6-8, this association elected the following officers: president, Dr. James M. Anders, Philadelphia; vice-presidents, Drs. Lawrason Brown, Saranac Lake, and Will Howard Swan, Rochester, N. Y.; secretary and treasurer, Dr. Guy Hinsdale, Hot Springs, Va.

Alumni at Minneapolis.—Alumni associations wishing reunions at the meeting of the American Medical Association in Minneapolis, next month, are requested to notify Dr. E. K. Green, secretary of the local committee, 307 Reid Corner, Minneapolis, in regard to any arrangements desired, and what entertainment, if any, they intend to provide.

Physicians' Study Tour of Europe.—About seventy-five physicians intend to take a study tour in Europe, according to Dr. Richard Kovacs, 256 East Sixty-Ninth Street, New York City, secretary. The party will sail July 13, and will visit Paris, Munich, Dresden, Berlin, Bad Nauheim, Vienna, Carlsbad, Marienbad, Hamburg, Wiesbaden, Cologne, Brussels and Amsterdam, reaching London in time for the opening of the International Medical Congress, August 6.

American Laryngological Association.—At its annual meeting in Washington, D. C., May 5-7, this association elected the following officers: president, Dr. Thomas Hubbard, Toledo, Ohio; vice-presidents, Drs. Frederick E. Hopkins, Springfield, Mass., and George E. Shambaugh, Chicago; secretary, Dr. Harmon Smith, New York; treasurer, Dr. J. Payson Clark, Boston; librarian, Dr. Joseph H. Bryan, Washington, D. C.; member of council, Dr. George A. Leland, Boston.

A Swindler Who Operates through the Medical Profession.—A representative of the U. S. Post Office states that a number of money order blanks have been stolen in Southern California by one A. J. Baker, who obtains physicians' stationery and forges introductions to practitioners in other towns, requesting that treatment be continued along some particular line. This is paid for by a money order, and the physician identifies Baker later, enabling Baker to cash the stolen orders. In one town Baker secured $1,400, it is said. Baker also used ministers as the means of being identified. His voice is effeminate, and when talking he holds his head to one side, with his chin slightly projecting. He is well educated and is an accomplished pianist. He is 5 feet 7 inches in height, weight 125 pounds, is 35 but appears younger, has black hair, dark eyes, and the skin of the face is rough as if slightly pitted. He dresses well, often as a woman. He is fond of presenting himself for examination, relating a long story of his life. A warrant for his arrest has been issued for robbery and forgery. If seen he should be turned over to the nearest officer and H. B. Hall, Post Office Inspector in Charge, San Francisco, should be notified by wire, government rate, collect. In the Correspondence Department of this issue is a report of a successful prosecution of another man, following a warning notice in these columns.

Infectious Diseases During May.—Infectious diseases continued to be quite prevalent throughout the country during the whole of May without epidemics of large proportions. The number of cases, however, was less than during the previous month. A new focus of cerebrospinal meningitis appeared in Richland County, South Carolina. There were only a few cases. In many cities and towns it was necessary to close the schools on account of small-pox, measles, scarlet fever, whooping-cough and diphtheria, more in the way of prophylaxis than on account of a large number of cases. Probably the most serious situation during the month developed in Canton, Mass., where an epidemic of milk-borne septic sore throat occurred. The number affected was about 400 with 19 deaths. This disease was similar to the epidemics during 1911 and 1912 in Boston, Baltimore and Chicago and spread slightly to some of the surrounding communities. On account of tardy activity on the part of the local health board, the state officials at first took charge of the situation. Prompt action soon caused a subsidence of the epidemic. Experimental prophylactic vaccination of about 3,500 persons, including a number of members of the state legislature, with an antimeningitis vaccine in Austin, Texas, was reported on favorably by physicians connected with the State Board of Health, no cases having occurred among those vaccinated.

Osteopaths and Death Certificates in New York.—Until recently the Department of Health of New York City had a regulation that no transit permit should be granted for the removal or burial of any person who may have died in the city of New York, unless a certificate of death made out on a blank of the department was signed by a physician on whom had been conferred the degree of doctor of medicine. This excluded the osteopaths and they took steps to have this regulation modified. The Supreme Court of Kings County held that while the state had permitted the practice of osteopathy, it did not follow that one without any practice in surgery or experience in prescribing drugs was fully qualified to certify the cause of death, and that even though the theoretical education of the osteopath was of a standard sufficient to allow him to practice, his practice was restricted and that it

did not appear that he could make the tests by examination of blood and tissues by which alone many diseases could be detected. It was held that the sanitary code, although discriminatory, was not personal or arbitrary but was based on a limitation which the osteopath could be said to make for himself and deprived him of no right which he ought to exercise consistent with public safety. This decision was upheld by two of the higher courts. In 1912 the osteopathic society of the city of New York again requested that osteopaths be allowed to sign death certificates and on May 6, 1913, the sanitary code was so amended as to provide that certificates of death could be "signed by a physician who had been granted a license after a medical examination conducted by the New York State Board of Medical Examiners on questions prepared by the Board of Regents of the state." This means that osteopaths who have passed the state board examinations may sign death certificates, but the number who have up to the present passed such examinations includes only about a dozen osteopaths; others will not have such right. In the state of New York, outside of New York City, under special provision in favor of osteopaths who were actively engaged in practice on May 13, 1907, and who fulfilled certain requirements, not including the regular examination of the New York state authorities, they are permitted to sign death certificates.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 10, 1913.

The Seventeenth International Congress of Medicine

Some further particulars may be given with regard to the forthcoming International Congress of Medicine to be held in London in August. The president of the section of medicine is Sir William Osler. The meetings of the section will be held at the Royal Society of Medicine. The work will comprise (1) discussions, (2) selected papers, (3) a clinical museum and (4) demonstrations of clinical apparatus, etc. The following discussions have been arranged: August 7, "Clinical Aspects of Hemolysis," G. Banti, Florence, and F. Widal, Paris. August 8, "Correlations of the Organs of Internal Secretions and Their Disturbances" (jointly with the section of physiology), reporters, E. Gley, Paris, A. von Koranyi, Budapest, and Frederick Kraus, Berlin; Bernard, Carnot and Claude, Paris, Biedl and Falta, Vienna; Hedon, Montpellier, Meltzer, New York, and Ferrannini, Camerino, have intimated their intention of taking part in the discussion. August 9, "Pathology of Heart Failure," reporters, H. Vaquez, Paris, and H. F. von Wenckebach, Strasburg. August 11, "Diabetes," reporters, George Dock, St. Louis, and Karl von Noorden, Vienna. August 12, "Differentiation of the Diseases Included under Chronic Arthritis," reporters, L. F. Barker, Baltimore, and Friedrich von Müller, Munich. The afternoon sittings will be devoted to the reading and discussion of independent papers. Among many promised the following may be mentioned: "Treatment of Leukemia with Benzol," A. von Koranyi; "Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax," C. Saugman; "Insuffisances pluriglandulaires," H. Claude, Paris; "Der augenblickliche Stand der Diagnosis der Pancreas- Erkrankungen," F. Wohlgemuth, Berlin; "Chronic Bacterial Endocarditis, with a Series of Preparations Illustrating the Condition from the Pathological Museum, Mount Sinai Hospital, New York," E. Libman; "The Recognition of the Status Lymphaticus in Adults," Haven Emerson, New York; "Diagnosis and Treatment of Duodenal Ulcer," Max Einhorn, New York, and "A Modified Form (?) of Sporadic Typhus, Brill's Disease," Brill, New York. Demonstrations of clinical cases of special interest will be held in connection with the morning and afternoon meetings of the section, and a strong committee has been formed to bring together the best available material for this purpose. Facilities will also be given to any member of the section who wishes to demonstrate any new clinical apparatus or clinical method.

Sir Watson Cheyne will preside over the section of surgery and Mr. Robert Jones over the subsection of orthopedics. The meetings will be held in the Imperial College of Science. The following subjects are down for discussion: "The Operative Treatment of Malignant Disease of the Large Intestine, Excluding the Rectum," introduced by Bastianelli of Rome and Körte of Berlin; a discussion, conjointly with the section of neuropathology, on the "Treatment of Tumors of the Brain and the Indications for Operation," Bruns, Hanover, Harvey Cushing, Boston, von Eiselsberg, Vienna, and Howard Tooth; a discussion on the "Diagnosis and Treatment of Early Renal and Vesical Tuberculosis," jointly with the section of urology, introduced by Legueu, Paris, Rochet, Lyons, and Wildbolz, Berne; report on the "Surgery of the Arterial System." Matas, New Orleans, and Oppel, St. Petersburg; "Intrathoracic Surgery," on the last day of the congress, Sauerbruch, Zurich, and Tuffier.

The Government Inquiry into Nostrums

At the last meeting of the parliamentary committee appointed to inquire into the sale and advertisement of proprietary medicines, Mr. Harrison, the accuracy of whose analyses in the volumes "Secret Remedies" and "More Secret Remedies," published by the British Medical Association, had been questioned by chemists representing nostrum proprietors (as reported in previous letters to THE JOURNAL), was recalled. He denied that a large proportion of his analyses referred to obscure nostrums which had very little sale. It had been stated that of 235 organic preparations in the British Pharmacopeia only 44 could be ascertained by chemical analysis. There were only 160 separate and distinct vegetable drugs in the pharmacopeia. In 84 cases the constituents could be determined by chemical or physical means or a combination of the two; in 13 cases the drugs were of little or no therapeutic activity; in 28 the drugs could not be completely identified though it might be ascertained that they were one of three or four, and in 26 the drugs would probably not be detected. In his previous evidence he had insisted on the limitations as to what an analyst could do. The analysts representing the proprietors had claimed to have found ingredients which he had not, but in almost every case they had been told of the presence of those ingredients. Moreover, samples varied; Beecham and Steedman had admitted altering their formulas. Powell's balsam and Winslow's syrup once contained morphin but did not now. Apart from deliberate alteration there were variations due to careless compounding.

Antivivisectionists Lose Suit for Libel

For some years Miss Lind-af-Hageby, a Swedish woman domiciled in England, has been the leader of the antivivisectionists, a position previously occupied by Mr. Stephen Coleridge, who frequently was involved in legal quarrels with prominent scientific men. Miss Hageby is well known as the author of "The Shambles of Science," in which vivisection is denounced in the usual lurid fashion of the antivivisectionists. She has now distinguished herself by conducting personally in the courts the longest action that has ever been brought by a woman. She claimed damages for libel against the *Pall Mall Gazette* and Dr. Saleeby, a well-known medical journalist of the popular type. Dr. Saleeby wrote in the *Gazette* about the exhibition of the antivivisection league in their shop in Picadilly, where a dog is represented as tied down to a board and undergoing torture at the hands of vivisectionists. In the article in question he referred to "the systematic campaign of falsehood without which the antivivisection societies could not exist," and cited this window as an illustration of "the unscrupulous mendacity of their hirelings." He pointed out that there was no indication given that the animal on the board was chloroformed and asked what point there would be in the exhibition if that fact were known.

Miss Lind, the plaintiff, as the honorary secretary of the antivivisection league, brought the action for libel, and not only did she conduct her own case for the twenty-three days which the trial lasted, but she made a most eloquent though unconvincing address. The long duration of the trial was partly due to the fact that the judge allowed her much more latitude than he would have allowed a lawyer. She therefore introduced much irrelevant matter. For the defendant several prominent physicians and pathologists were called to show that anesthetics were used in vivisection experiments. The judge, Mr. Justice Bucknill, in summing up told the jury that it was a question of fact and not a religious question or question of sentiment. The charges made by Dr. Saleeby were said to amount to this—that the plaintiff had untruthfully with her associates carried on a campaign against vivisection. She had undoubtedly been a hard worker in a very laudable cause; he could not help admiring the vigor with which she had fought the battle. She was a lady of marvelous power, able to stand in court day after day, showing no sign of fatigue, not losing her temper, and able to cross-examine as well as any lawyer. But it was her duty to be truthful. If they thought that Dr. Saleeby wrote facts which had been proved, then he would be entitled to the verdict. The jury returned a verdict in his favor.

The National Insurance Act

Much discontent has arisen in connection with the working of the insurance act in consequence of the enormous number of persons which some popular physicians have on their lists, many more than they can attend to properly. At present there is no limit whatever as to the number. An insured person can select any physician he likes on the panel subject to the physician's consent. On the London panel the following figures show the enormous numbers which some doctors have: Three have from 5,000 to 7,000; three from 4,000 to 5,000; twenty from 3,000 to 4,000; eighty from 2,000 to 3,000, and ninety-three from 1,500 to 2,000. Mr. Rocklif, secretary of the Joint Committee of Approved Societies, representing over seven million insured persons, has brought the matter before the London Insurance Committee. He considers that the crying necessity for a limit on the number of patients a doctor may undertake is proved by countless letters which he has received complaining of patients having to wait for hours in physicians' offices and then getting hurried, inadequate treatment. In one case the insurance committee received three certificates from the same doctor showing that the patient was suffering from a different disease each week. The examination had been so hurried that the diagnosis was altered each time. Another difficulty is in the refusal of physicians to see insured persons on Sundays. The income derived by the physician with so many patients is large; thus for 7,000 persons he receives $12,500 a year, and in addition has his private practice. It must be remembered, however, that with such a large practice the physician keeps one or more assistants. Another complaint is that physicians with these large practices frequently keep three or four lock-up offices, each of which they visit for an hour or two daily, but where it is impossible for the insured to receive attendance at any other time than the specified hours and at night.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 13, 1913.

The Proposed Revision of the Law on the Insane

The law of 1838 with regard to the insane, which is at present in force, has been for a long time the subject of violent criticism especially in the lay press. A bill revising this law has been passed by the Chamber of Deputies, and is now before the Senate. One of our most authoritative psychiatrists, Gilbert Ballet, does not believe that it constitutes a step forward. May 6 he made before the Académie de médecine a well-founded criticism of the law. According to public opinion, the law of 1838 lends itself to the arbitrary immuring of patients. Legislators have desired above all things to render impossible these arbitrary sequestrations. Accordingly the bill multiplies vexatious formalities with the sole purpose of preventing the unlikely hazard of an unjustified internment of sane persons, by deciding that every case of removal to an asylum ought to be made by judicial process. The bill aggravates instead of ameliorating the lot of the insane. Ballet also protested against the provisions of the bill for strict judicial oversight of patients cared for in their families or placed in foreign establishments. Ballet believes that it is necessary to distinguish three classes of insane: (1) criminals who have committed a crime or misdemeanor under the influence of their disease; (2) the more or less apparently lucid insane who protest continually, formally and coherently against confinement, and (3) those—most numerous of all—who do not protest against confinement or who protest only accidentally as do certain patients in ordinary hospitals, whom, however, no one has any scruples about retaining there when their health demands. The insane of the first two groups, who are the exception, should not be deprived of their liberty without judicial procedure. Ballet protests against the application of such a vexatious measure to patients of the third group, who constitute at least 80 per cent. of the insane. These should be treated like ordinary patients in asylums or sanatoriums which may be entered freely, but which should be strictly supervised, in order to avoid possible abuses, by a commission composed of a magistrate and a physician making regular, frequent and effective visits. Except for the first two classes, Ballet would allow more liberty than under the law of 1853, while the bill calls for more restraint.

Medical Students and the Three-Year Period of Service

L'Association des professeurs des Ecoles de médecine et de pharmacie decided at the last general assembly to send to the ministers of public instruction and of war, resolutions as to the desirability of making use of the special training of students in medicine and pharmacy as far as possible and as soon as possible during their term of military service.

Measures Against Opium

M. Felix Chautemps, deputy from Savoy, has introduced into the Chamber of Deputies a bill forbidding the sale of opium. He shows that many naval officers and colonial official functionaries, as well as many other persons of both sexes are now smoking opium in France and in the colonies. The danger is great, not merely for the victims of this pernicious habit, but also for the nation which expects important public service from them. Accordingly, by this bill, the sale and circulation of opium, morphin, cocain and all analogous substances except as needed for chemistry and pharmacy, are absolutely forbidden in France and French colonies. Infraction of the law, especially of smoking opium in public or private, is to be punished by imprisonment of from two to six months. Accomplices in whatever degree in the sale, circulation or use of opium are subjected to the same penalties.

Medical Secrecy and Industrial Accidents

Is it contrary to the principle of professional secrecy for the physician who cares for a victim of an industrial accident to give information to the employer's physician authorized according to the law to verify the patient's condition in order to avoid unnecessary expense? This question came up in a case before the Cour de cassation which decided that the patient's physician violates professional secrecy if he gives information to his colleague, the employer's physician, with regard to the disease of the victim of industrial accident. On the other hand, the employer's physician commits no violation of professional secrecy in disclosing to his employer, that is, the patient's employer, the information he has received.

Dangers from Dry Shampoos

The question has been raised as to whether or not proprietary lotions for cleaning the hair by what is sometimes called the "dry shampoo" method are innocuous and free from dangers to the health of persons who use them. [Fatal cases of poisoning from carbon tetrachlorid in "dry shampoos" were referred to in the London Letters, July 31, Aug. 28, and Nov. 13, 1909.—ED.] The matter was brought before the Conseil d'hygiène publique et de salubrité du département de la Seine by the prefect of police, who had his attention drawn to this subject by a letter from Dr. Levassort, who reported the following case:

A woman aged 30, on returning home after a trip, wished to clean her hair by the so-called dry method. She went into her dressing-room, which was rather small and was heated by a radiator which raised the temperature rapidly. After pouring into a basin about two-thirds of the shampoo liquid, she leaned over in order that her hair might fall into the basin. Swiftly overcome by the fumes, she fell backward and lay unconscious for ten minutes, when the maid happened to come in. The patient was put to bed and did not regain consciousness until three hours later, during two of which she presented continuous nervous crises with cries and uncontrollable movements which frightened the family. At this time Dr. Levassort saw her. She was colorless, had an intense headache, suffered nausea and was in a state of hebetude. This continued several days, and for three or four weeks the patient remained in an indescribable condition with mucous pallor and general anemia.

What prompted Dr. Levassort to bring this question before the Conseil d'hygiène was the report from several hairdressers whom he interrogated that their customers when having the hair cleaned are often uneasy and are sometimes made ill. When the substance was analyzed in the municipal laboratory, it was found to be composed of carbon tetrachlorid, not inflammable, though impure, and containing about 5 per cent. of carbon disulphid. Inhalation of the fumes of carbon tetrachlorid causes severe symptoms, and there has even been a death from this cause. The dangers of carbon tetrachlorid are increased when the substance is impure and contains carbon disulphid as in this antiseptic lotion. Carbon tetrachlorid when pure is quite expensive. When impure it costs less but is more dangerous to handle.

Dr. Duguet, who was charged with the presentation of the report on this question, after having consulted a number of dermatologists, among whom were Drs. Jacquet, Thibierge, Darier, Brocq, Hallopeau and Sabouraud, concluded that it is expedient and to the interest of public health not to let so

dangerous a substance get into the hands of the public or even of hairdressers, and proposed that its sale be stopped. Duguet's conclusions were adopted by the Conseil d'hygiène.

Epidemic of Typhoid Caused by a Mistake in Piping Water

For the past two weeks there has been an epidemic of typhoid in Paris. During the past week this disease caused 17 deaths in place of the usual 4, and the number of new cases reported was 78 in place of 34, the average. The matter was investigated and it was found that this epidemic began on the premises of the Faculté de médecine on the occasion of the recent international congress of physical education. While the exposition annexed to the congress was being prepared on the premises of the Faculté, a workman charged with repairing and completing branches to the water conduits in this place by mistake connected a pipe for drinking water to a conduit of water from the Seine. This mistake has been corrected but the unfortunate affair teaches a lesson. Pipes containing spring water and raw river water should be placed at a distance from one another and those containing Seine water should be plainly marked in order to prevent any mistake, since Paris has a sufficient supply of spring water to render the use of river water unnecessary excepting for sprinkling and for cleaning.

The Binding Nature of Medical Secrecy

A tradesman asked damages of 5,000 francs ($1,000) in a civil court in the Seine on the ground that a Paris physician had betrayed a professional secret. The court had to decide an interesting and delicate question: whether a physician might differentiate between diseases of a secret or non-secret character, or whether the rule of professional secrecy is binding in all cases. The court ruled as follows:

Except in those instances specified by law in the interest of public health, a medical secret should be strictly guarded, no matter what the disease is for which the practitioner is called.

The physician should not arbitrarily consider certain diseases secret and others not. This distinction does not rest with him. Some circumstance might transform a disease considered comparatively harmless into just the opposite.

The physician should not be the judge of the expediency of giving information which might have serious consequences for the person involved.

For the dignity of the medical profession as well as for those who place themselves under the care of physicians, secrecy should be observed rigorously not only as to the nature of the disease but also as to the circumstances accompanying professional visits.

Therefore the court held that in giving, without the consent of the patient and her husband, a certificate enumerating the number of consultations and telling the nature of the ailment treated, the defendant had made an error. Judging, however, that the matter divulged in this instance, although of a nature to produce injury, had caused but little, the court awarded damages of only 1 franc.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, April 25, 1913.

Personal

Professor Strasburger of Breslau has accepted the position of director of the newly established medical policlinic and therapeutic course at Frankfort-on-the-Main, which are to be considered a department of the proposed university.

Dr. Wolff of Strasburg, professor extraordinary of dermatology, has been appointed regular professor. With this change the number of regular professorships for dermatology is increased. Apparently the positions of professors extraordinary for dermatology also in other Prussian universities will gradually be replaced by regular professorships.

Professor Kaiserling of Berlin has accepted the appointment as successor of Professor Henke at the Cologne institute of pathology.

Professor von Dungern of Heidelberg has been appointed director of the newly established institute for experimental cancer research at Hamburg-Eppendorf.

Professor Bardenheuer will soon retire from his position as instructor of surgery at the Cologne academy for practical medicine and as director of the hospital (*Bürgerspital*).

Professor Dürck of Munich has declined the call to the Cologne academy for practical medicine.

Sixth International Congress on Physiotherapy

(Concluded from page 1651)

INDIVIDUALIZED DIETS IN INSTITUTIONS

A. Schmidt of Halle discussed the rational establishment of diet kitchens in hospitals and sanatoriums. It is not consistent with the principle of the individual nourishment of patients to centralize the kitchen arrangements in hospitals as commonly done at the present day. The reckoning of income plays an essential part in the matter, and also too few schematic forms of diet are employed. Schmidt summed up his experience in the clinics at Halle. The manual preparation of foods is important and therefore reliable kitchen help and naturally the best raw material must be available. The selection of patients who are to receive a special diet must be left to the physician in charge. In Halle the diet kitchen provides (1) a milk-vegetable food diet with salt; (2) a milk-vegetable diet poor in salt; (3) an albumin-fat diet with vegetables poor in carbohydrates; (4) an albumin-fat diet with sugar but without vegetables and potatoes; (5) a mixed protective diet, and (6) a liquid gruel diet. In addition there are individual forms. The excess expense of the diet kitchen amounts to 1 cent per patient per day. Of German sanatoriums only a third furnish a mixed diet, while the rest prefer a vegetarian diet and one-tenth have a special diet kitchen.

DIET IN GOUT

Minkowski of Breslau discussed the dietetic treatment of gout. A satisfactory theory of gout has recently been established by the fact that the origin of uric acid has been recognized in the purin compounds contained in the cell nuclei. The later physical investigations on the solubility of uric acid, particularly its colloidal form, and the exact succession of metabolic processes on which the origin and further fate of uric acid depend, will serve to solve many enigmas in this question. Gout consists in a retention of urates in the tissues and blood, accompanied by a diminished excretion of uric acid. The fundamental principle of the diet is to limit the supply of the purin bodies. But an individual adaptation of the dietetic directions to the severity and character of the particular case is quite necessary. A foodstuff forms the more uric acid the richer it is in cell nuclei. The foodstuff richest in the nuclei is thymus tissue, which contains ten times as much purin bodies as meat and a hundred times as much as milk. Eggs and caviar, bread, potatoes and rice are practically purin-free, while legumes contain as much purin as meat. Beer is extraordinarily rich in purin material, which comes from the yeast and contains in 1 liter as much uric acid as 100 gm. meat. Tea and coffee are free from uric acid.

Garod of London discussed the same subject. He prefers a diet poor in purins to one rich in purins, but would not recommend purin-free diet, as it cannot be taken for a long time without harm. In general he doubts the practical success of dietetic treatment of gout. He would prefer in the case of gouty patients to regulate the amount of foodstuff not only by calories but also by the amount of nitrogen.

German Convention on Internal Medicine

VACCINATION AGAINST DIPHTHERIA

The most important event during the Kongress für innere Medizin, held at Wiesbaden April 18-22, under the presidency of Professor Penzoldt, was the report of von Behring and several of his collaborators on a new prophylactic against diphtheria. As is known, the immunity conferred by diphtheria antitoxin lasts only a few weeks. For this reason, as well as on account of the danger of anaphylaxis which may result from repeated injections of the serum, antitoxin has heretofore been comparatively little used in prophylaxis. According to von Behring, the new preventive will immunize for several months at least. The remedy is not obtained by the passage through animals (horses), but it consists of a mixture of toxin and antitoxin, which is injected directly into man. More detailed information as to the investigations of von Behring, which have aroused the greatest interest, will appear in one of the next issues of the *Deutsche medizinische Wochenschrift* and in French in the *Semaine médicale*.

From the rest of the great amount of material presented at this congress I will mention only the most important communications.

FEVER AND ITS TREATMENT

Meyer of Vienna explained the regulation of heat by the existence of two centers—a heat center and a cold center. Fever he attributed to an increased irritability of the heat

center with a simultaneous inhibition of the cold center. In fever the irritability of the heat-regulating mechanism is increased so that the application of external cold, or the use of antipyretics, produces an abnormally prolonged reduction of temperature. In general, fever may be considered a useful protective reaction, but if very intense it may be injurious and must be checked. Von Krehl of Heidelberg took the same view with reference to the origin of fever, and concluded that metabolism in fever was qualitatively the same as in a normal person with deficient nutriment. The source of heat is in the muscles and the large abdominal glands. Changes in the excretion of sugar in diabetics with fever indicate that the sympathetic nervous system plays a rôle in the process of heat regulation. This influence is exerted by means of chemical agents produced by the ductless glands under the stimulation of the nerves. Special nervous influences acting on the abdominal glands may increase the cell metabolism.

In treatment of fever the diet is of special importance. Proteins should be used in moderate quantities and carbohydrates in large amounts, as they are most readily taken by patients with poor appetite and leave the stomach rapidly. The technic of the diet for fever patients is of the greatest importance. The administration of abundant food in diseases with long-continued fever is an important advance. The hydrotherapy of fever is important, but is limited to certain cases and conditions. In the use of antipyretics a sedative influence on the heat center is more important than the reduction of the temperature. To reduce the temperature at any price often leads to unpleasant side-effects, and it is a bad habit to resort to an antipyretic for the reduction of every rise of temperature. In the treatment of typhoid with pyramidon in small doses, Krehl has seen good results, but extreme caution is imperative.

RELATIONS BETWEEN ANAPHYLAXIS AND FEVER

In connection with the addresses on fever, Schittenhelm of Königsberg discussed the relation between anaphylaxis and fever. He described the ordinary symptoms of anaphylaxis. The temperature changes in anaphylaxis can be produced artificially; with small doses it is possible to produce fever with very high temperature and further by graduated reinjections to produce artificially various types of fever. For the explanation of these phenomena it is assumed that when albumin is introduced without passing the intestinal canal it is split up by specific ferments in the blood-vessels, so that poisonous products of decomposition occur. The poisonous character of such products is never so great, however, that it can alone explain the severe picture of anaphylaxis. Neither is it possible to produce evidence that a single poison arises from the decomposition of all albumins. Anaphylaxis has been called in to explain certain features of infectious diseases, the symptoms of fever and other conditions, and it has been assumed that a single poison is produced from all forms of bacterial albumin as well as from albumins of other sources. Many facts are opposed to this view. It must be assumed that there are numerous fever toxins which for the most part are produced from albumins. Physical processes, variations in the colloidal equilibrium of the blood and of the tissue fluids are also given as explanations of anaphylaxis; these alone may produce pathologic phenomena such as are seen in anaphylaxis. In this way fever and a fall of temperature may be produced.

Many other papers and an extensive discussion on this subject brought out numerous theoretical and practical points. Von Müller of Munich and Kraus of Berlin opposed the view of Krehl that in the origin of fever an increased decomposition of albumin is not involved. Kraus based his objection especially on the new experiments of Hirsch who has reported that in anaphylatoxic fever—in contrast with the fever of infection—the metabolism may be even subnormal. In fever from trypanosomes there occurs after a long time a marked increase in the metabolism of albumin and fat, and the fever temperature is not at all influenced, though the metabolism is, by quinin.

Bauer of Innsbruck reported a fall of temperature in a case of tumor of the pineal gland, and he was able to produce a lowering of temperature by the injection of extracts from the pineal gland.

Singer of Vienna was able to secure very favorable influence on the fever of tuberculous patients by injections of small doses of colloidal copper into the blood.

Jaksch of Prague warned against baths in typhoid. He recommends rubbing and opposes the use of antipyretics and of alcohol in this disease.

DIGESTION TRACED BY VITAL STAINING

The discussion of diseases of the digestive organs was opened with an address by Goldmann of Freiburg, on the processes of digestion as shown by vital staining. By vital staining is meant a method of injection in which the staining fluid is injected under the skin of living animals or into the circulation, and in which the combination and fixation of the stain and its behavior in the cells can be followed. By this method, which has been developed for the nervous system by Ehrlich, conclusions can be drawn as to the functioning of the cells. Goldmann, who has done good service in the development of vital staining, injected various stains in various ways into animals, from the frog to the ape, and investigated their behavior with reference to the cells of the digestive tract in order to obtain an insight into the course of digestion.

He directed his attention especially to certain cells occurring free in the structure of the intestinal villi and the connective tissue of the mucous membrane, the rôle of which in digestion has long been known. He conducted his research under various conditions of feeding and included in its scope not only the gastro-intestinal tract but also its auxiliary structures, like the omentum, the lymph-nodes, the spleen and the liver.

For these investigations small animals, as frogs, rats, etc., are best suited. In a rat at the height of digestion, the various sections of the intestinal canal are completely different in their behavior. The esophagus is nearly without color, the cardia portion of the stomach also appears colorless, and the pylorus which contains glands is deeply stained. The staining extends to the duodenum and to the upper part of the small intestine, but diminishes in this and becomes intense again in the neighborhood of the cecum and in the upper large intestine. The variations in staining depend on the number of a certain sort of vital staining-cells. These cells have a great power of movement, so that they are chemotactic; that is, they can be readily attracted and are characterized as so-called phagocytes. These cells are found most frequently in the network of the mucous membrane of the digestive tract. They are constantly moving about so that no layer of the intestine is free from them. In starvation they are found to be very rare. These migratory phagocytes do not come from the blood or from the wall of the intestine; their principal place of formation seems to be the omentum. They are found also in the spleen and the lymph-nodes. The process of digestion consists in these cells entering the intestinal wall laden with products of digestion which they give up to the intestinal villi and leaving the intestinal wall again as empty cells. Moreover, the lymph-nodes placed behind the stomach, the cecum and the omentum also take part in the process, as the cells are met in these organs, mostly filled with red blood-cells; they are also found in the spleen.

It has been believed hitherto that a destruction of blood-cells which are weakened with age takes place only in the spleen. Now it is shown that there become free in this process important substances which are taken up by the phagocytes and play an important rôle in the absorption of nutriment. The digestive process is connected with a cell reaction occurring in the mucous membrane, characterized by the appearance of the so-called migrating phagocytes. They have also been found in other conditions. A rat infected with trichina showed these cells in great masses on the individual trichina capsules; and in a case of peritoneal cancer in a mouse they were found in the neighborhood of the tumor, while the intestine was free. The cancer had drawn the cells away from the intestine to itself. From this investigation it appears that the organism protects itself against the entrance of substances foreign to the body, blood and cells, and endeavors to convert them into suitable substances. The lecture was supplemented by the statement of Friedrich of Königsberg who had studied the conditions in the thorax, pleura and the lungs by similar experiments.

(To be continued)

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 10, 1913.

Changes in the Organization of the Vienna Clinics

A number of important changes will take place shortly in the Vienna clinics. The second internal clinic, which was managed formerly by von Neusser, will be taken over by Ortner, and the present fourth clinic (Chvostek) will be called the third, while the fourth clinical chair will be discontinued, as there is not sufficient material at disposal for teaching purposes in four clinics. Thus we shall have only the three clinics: von Noorden's (who also will soon go away from Vienna), Ortner's and Chvostek's. The wards occupied by the third medical clinic will be devoted to the use of a new, third surgical clinic. This new institute will be devoted to

elementary teaching of surgery and will be controlled by the two existing surgical clinics (von Eiselsberg's and Hochenegg's). Part of the accident cases and first-aid cases will also be sent to this institute. The lectures in the third surgical clinic will be delivered not by ordinary professors, but by the assistants of the two clinics. Negotiations are also being entered on between the senate of the university and several eminent men in Germany and Austria as to the successorship in von Noorden's clinic. As this famous scientist has given due notice that he will terminate his stay in Vienna with the end of the summer term of 1913, the question is a pressing one.

Alcohol in the Austro-Hungarian Army

The present unsettled political conditions in Europe have resulted in a large number of soldiers being kept in readiness for more than half a year, and the provisions for hygienic welfare of several hundred thousand men are being put to a crucial test just now. A fact worthy of notice is the nearly complete absence of alcohol from the regimen or daily bill of fare of the soldiers on the frontier. The water-supply in that country being none too good, care has been taken to instruct the soldiers' in this respect, and they are being constantly told that the old statement, "bad water is made innocuous by alcohol," is a dangerous misrepresentation. It has also been ascertained that whenever a period of endurance was required of the soldiers those who took no alcohol were much more fit for work than the other men. Only when a rapid but short strain was necessary a little alcohol might be beneficial or at least harmless. In mountain climbing, the consumption of alcoholic beverages was distinctly detrimental to the accuracy of stepping. The effect of sweetened liquid (sweet tea, coffee, milk or sweet mild wine) was very gratifying. The wine mentioned here is the black Italian or Turkish wine, with a very low percentage of alcohol. But even this beverage was disallowed when longer exercises were taken. The experiences obtained by the army authorities will no doubt lead to a complete elimination of alcohol as "war rations" except as a stimulant and for purely therapeutic measures, although here also experience speaks at least not in favor of an addition of alcohol for pneumonia, typhoid and general debility. It is also noted that total abstainers form a negligible fraction among those soldiers who have to be punished for disorderly conduct, breach of discipline or other minor offenses of a military nature, although total abstention is frequent now in the rank and file of the army. In the anti-alcohol movement in Europe, our army is one of the leaders.

Marriages

OLIVER WENDELL HOLMES MITCHELL, M.W., Columbia, Mo., to Miss Pauline Preston Settle of Springfield, Mo., at Lancaster, Mo., May 15.

HENRY BENJAMIN TREAKLE, M.D., Matthews County, Va., to Mrs. Sadie B. Moriarty at Gwynn's, Matthews County, Va., May 12.

ERNEST A. GUYTON, M.D., Eau Claire, Wis., to Miss Goldie Hopkins of Trempealeau, Wis., at St. Paul, Minn., April 26.

WILLIAM MORGAN SMITH, M.D., Alexandria, Va., to Mrs. Annie Staunton Murphy Cox of Washington, May 14.

NATHANIEL GRAHAM ALCOCK, M.D., Pueblo, Colo., to Miss Marjory Bates of Yankton, S. Dak., May 7.

RAYMOND BARTLETT MORRIS, M.D., Olean, N. Y., to Miss Mary L. Parrish at Baltimore, May 14.

JAMES P. CALDWELL, JR., M.D., Marble, Minn., to Miss Sylvester at Plainview, Minn., May 14.

EDWARD SMITH BLAINE, M.D., Milwaukee, to Miss Edith Walters Packer of Chicago, May 26.

FLAVIUS O. PLUNKETT, M.D., Lynchburg, Va., to Miss Ruth Lewis at Lauderdale, Va., May 12.

DEO P. MATTHEWSON, M.D., Bath, N. Y., to Miss Lucy Sweet of Towanda, Pa., May 13.

JAMES W. CRAIG, M.D., to Miss Florence Mae Bramble, both of Vinita, Okla., May 7.

FRANK AMBROSE LAGORIO, M.D., to Miss Ella A. Triner, both of Chicago, May 20.

JOHN R. SMITH, M.D., Douglas, Ga., to Miss Emma Wofford of Atlanta, May 13.

Deaths

Elmore S. Allbee, M.D. Albany (N. Y.) Medical College, 1870; a member of the American Medical Association; for ten years health officer of Rockingham County, N. H., and Bellows Falls, Vt.; a very capable and efficient official; a practitioner of Bellows Falls, Vt., since 1875, with a large family and consultation practice in that part of Vermont and New Hampshire adjacent to Bellows Falls; a practitioner held in most affectionate regard by his patients and professional brethren; died at his home in Bellows Falls, May 14, from pneumonia, aged 65.

Samuel Ross McCready, M.D. Western Reserve University, Cleveland, Ohio, 1888; of Leetonia, Ohio; a member of the American Medical Association; health officer of Columbiana County and city physician of Leetonia; aged 57; while driving his automobile in Leetonia, May 14, was caught by a rope which was stretched across the street and thrown from his machine, breaking his neck.

James Harvey Manown, M.D. Jefferson Medical College, 1844; a charter member of the West Virginia State Medical Association; surgeon of the Fourteenth West Virginia Volunteer Infantry during the Civil War; physician in charge of the Weston (Va.) State Hospital from 1885 to 1890; died at his home in Kingwood, W. Va., March 20, from senile debility, aged 91.

James B. Olmsted, M.D. Pulte Medical College, Cincinnati, 1881; of Portland, Ore.; supreme medical director of the United Artisans, who was seized with a cerebral hemorrhage on a Northern Pacific train between Ellensburg and North Yakima, Wash., three weeks before; died in St. Elizabeth's Hospital, North Yakima, May 18, from a second hemorrhage, aged 56.

Emery Wendell Foster, M.D. John A. Creighton Medical College, Omaha, Neb., 1902; formerly of Worland, Wyo.; a member of the Wyoming State Medical Society; died in his apartments in Omaha, May 12, from the combined effects of atropin, hyoscin and morphin, believed to have been self-administered with suicidal intent, aged 37.

Robert Franklin Raines, M.D. St. Louis College of Physicians and Surgeons, 1897; a member of the Nebraska State Medical Association and formerly a member of the American Medical Association; commissioner of insanity, coroner, and county physician of Webster County; died at his home in Red Cloud, April 20, from erysipelas, aged 44.

Henry N. Keener, M.D. Homeopathic Medical College of Missouri, St. Louis, 1868; formerly secretary of the State Board of Health of Missouri and a hospital steward during the Civil War; for a time city physician of Springfield, Ill., and later coroner of Bureau County, Ill.; died at his home in St. Joseph, Mo., May 12, aged 71.

David Franklin Stone, M.D. University of Toronto, Ont., 1870; a member of the American Medical Association; for many years a member of the staff of Mercy Hospital, Bay City, Mich.; at one time president of the Lapeer County School Board; died at his home in Bay City, May 18, from heart disease, aged 70.

Duke Williamson Hunter, M.D. Jefferson Medical College, 1854; of Kansas City; a pioneer physician of Kansas City and major surgeon of the Sixth Missouri Infantry, C. S. Army, during the Civil War; died at the home of his daughter in Kansas City, April 22, from the effects of a fracture of the hip, aged 80.

William Cowan Carson, M.D. University of Maryland, Baltimore, 1856; an academic graduate of Princeton College in 1853; died at his home in Port Deposit, Md., May 14, aged 80.

Michael Francis Joseph Crowley, M.D. New York University, New York City, 1890; died at his home in New York City, May 14.

Albert Eben Miller, M.D. University of Pennsylvania, Philadelphia, 1864; of Needham, Mass.; a member of the Massachusetts Medical Society and Boston Gynecological Society; professor of physiology in the College of Physicians and Surgeons, Boston; died at East Orleans, Mass., April 21, aged 79.

John William Kyger, M.D. University of Virginia, Charlottesville, 1868; a member of the Missouri State Medical Association and professor of pediatrics in the Medical Department of the University of Kansas; died at his home in Kansas City, Mo., May 5, from cerebral hemorrhage, aged 64.

Franklin Benjamin Gottschalk, M.D. Northwestern University Medical School, 1894; a member of the Illinois State Medical Society; formerly professor of electro-therapeutics in Jenner Medical College; died at his home in Chicago, May 22, from septicemia, following a wound of the foot, aged 45.

Wilson John Rugh, M.D. Columbus (Ohio) Medical College, 1877; of Pittsburgh; a member of the American Medical Association; supreme treasurer and past supreme commander of the Knights of Malta of the Continent; died in the West Penn Hospital, Pittsburgh, May 10, aged 64.

Herbert Edward Balmain Dickson, M.D. L.R.C.P. Ireland, 1886; L. R. C. S. Edinburgh, 1889; formerly a member of the staff of the Royal Ophthalmic Hospital, London; a specialist on diseases of the eye with office in Chicago; died at his home in Hinsdale, Ill., May 15, aged 49.

David Engelman, M.D. Jefferson Medical College, 1864; a member of the Medical Society of the State of Pennsylvania; formerly president of the State Board of Health; twice a member of the legislature and once state senator; died at his home in Easton, May 14, aged 77.

William C. Hamilton, M.D. University of Paris, France, 1860; surgeon in the Confederate Service during the Civil War; a practitioner of Chicago until 1879 and thereafter a practitioner of Topeka, Kan.; died at his home in that city, May 11, from paralysis, aged 74.

Theodore Wing Peers, M.D. University of Michigan, Ann Arbor, 1885; emeritus professor of diseases of children in Kansas Medical College, Topeka; a member of the Kansas Medical Society; died at his home in Topeka, May 12, from cerebral hemorrhage, aged 56.

Mathias A. T. Hoffmann, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1901; of Campbellsport, Wis., aged 34; was struck by a train and instantly killed May 18, while crossing the Northwestern tracks near Campbellsport in his automobile, aged 34.

George W. Haile, M.D. Medical College of Ohio, Cincinnati, 1866; a member of the Academy of Medicine of Cincinnati; died at the Good Samaritan Hospital Annex, Cincinnati, April 23, from double pneumonia, complicating diabetes of long standing, aged 67.

William E. McDivitt, M.D. Sioux City (Ia.) College of Medicine, 1905; a member of the Nebraska State Medical Association; died at Magdalena, Mex., May 20, while en route in an automobile from Southern California, to his home in McCook, Neb., aged 34.

Richard Francis Murphy, M.D. New York University, New York City, 1889; a specialist on diseases of the nose and throat and physician to the Actors' Fund of America; died at his home in New York City, May 10, from cerebral hemorrhage, aged 51.

Edward B. Belknap, M.D. University of Buffalo, N. Y., 1892; a member of the Medical Society of the State of New York; for twenty years a practitioner of Wyoming County; died in the Rochester (N. Y.) General Hospital, May 12, from nephritis, aged 46.

Joreph Manuel Delaterga, M.D. Long Island College Hospital, Brooklyn, 1882; a surgeon in the United States Volunteer Service in Cuba during the Spanish-American War, and a practitioner of New York City; died at the Brooklyn Hospital, May 7.

Bennett P. Windsor, M.D. John A. Creighton Medical College, Omaha, 1896; mayor of Mount Auburn, Ill.; was shot in a political feud, May 16, and died in St. John's Hospital, Springfield May 17, from the effects of his wound, aged 38.

Ernest Newton Shepard, M.D. Jefferson Medical College, 1895; a member of the American Medical Association; visiting physician and surgeon to the Bradford County (Pa.) Almshouse, died at his home in Burlington, April 26, aged 42.

Ernest P. Bixby, M.D. New York Homeopathic Medical College, New York City, 1897; of Barre, Mass.; formerly assistant physician at the Massachusetts State Sanatorium; died in Canyon City, Colo., March 24, from tuberculosis, aged 39.

Thomas Henry Heffernan, M.D. Northwestern University Medical School, 1896; a member of the American Medical Association and a prominent practitioner of Dubuque, Iowa; died at his home, May 8, from diabetes, aged 45.

Wyatt Stephen Oates, M.D. Atlanta, Ga., 1876; who for many years devoted himself to real estate interests, rather than to the practice of medicine; died at his home in Headland, Ala., April 12, from cerebral hemorrhage, aged 61.

Alrick T. Payne, M.D. Medical College of Ohio, Cincinnati, 1875; one of the oldest practitioners of Terre Haute, Ind.; coroner of Vigo County from 1894 to 1898; died at the home of his daughter in Terre Haute, May 12.

Edgerton Haskell Hart, M.D. New York University, New York City, 1892; a medical missionary of the Methodist Episcopal Board in China; died at his station in Wu Hu, April 14, from typhus fever, aged 45.

John Adam Conrad, M.D. Long Island College Hospital, Brooklyn, 1867; formerly a member of the Pennsylvania State Legislature; was found dead in his office in Robesonia, Pa., May 14, from heart disease, aged 70.

Simon Alexander Kemp, M.D. University of Pennsylvania, Philadelphia, 1866; one of the coroners of Sullivan County; died suddenly at his home in Callicoon Depot, N. Y., May 5, from cerebral hemorrhage, aged 66.

William Irby Hall, M.D. University of Virginia, Charlottesville, 1893; of North Tazewell, Va.; who had been in Florida during the winter in search of health; died in a sanatorium at Coshocton, Ohio, May 4, aged 45.

John Latimer Short, M.D. University Medical College, Kansas City, Mo., 1885; oculist and aurist to Grace Hospital, Versailles, Mo.; died at his home in Rolla, Mo., May 12, from cerebral hemorrhage, aged 59.

John Per Gustaf Björkman, M.D. University of Upsala, Sweden, 1887; Eclectic Medical College of the City of New York, 1890; died at his home in Racine, Wis., April 28, from diabetic gangrene, aged 59.

Robert Stephens Hunt, M.D. University of Nashville, Tenn., 1900; a member of the State Medical Association of Texas; a prominent practitioner of Rogers, Tex.; died in Temple, Tex., May 8, aged 44.

Francis Winfield Stiles, M.D. Cleveland University of Medicine and Surgery, 1852; formerly of Suffolk, Va.; died at his home in DeFuniak Springs, Fla., March 19, from cerebral hemorrhage, aged 86.

Charles Frederick Wocher, M.D. Medical College of Ohio, Cincinnati, 1891; a well-known physician and druggist of Cincinnati; died at his home, May 15, from pneumonia, aged 56.

George Gordon Wilcox, M.D. Rush Medical College, 1882; a member of the American Medical Association; local surgeon at Seneca, Ill., for the Rock Island system; died about May 11, aged 63.

Charles Weckslin, M.D. Eclectic Medical College of the City of New York, 1907; Long Island College Hospital, Brooklyn, 1909; died at his home in Brooklyn, May 4.

John W. Covert, M.D. Cleveland University of Medicine and Surgery, 1879; a veteran of the Civil War; died at his home in New Castle, Pa., about May 18, aged 75.

Benjamin Franklin Brown, M.D. Ohio Medical University, Columbus, 1896; died suddenly at his home in Shawnee, Ohio, May 13, from heart disease, aged 45.

Jesse Williams Henry, M.D. Georgetown University, Washington, D. C., 1866; died at his home in Brooklyn, N. Y., May 16, from senile debility, aged 84.

Thomas T. Bonner, M.D. Memphis Hospital Medical College, 1888; a member of the Mississippi State Medical Association; died at his home in Tupelo, May 10.

Edward William Carhart, M.D. Albany (N.Y.) Medical College, 1898; died at his home in Brooklyn, May 15, from fatty degeneration of the heart, aged 56.

J. W. McMullen, (license, Indiana, 1897); a practitioner of Warren County for thirty-eight years; died at his home in Pine Village, May 7, aged 62.

Almon James Ryan, M.D. Rush Medical College, 1875; a physician and druggist of York, Neb.; died at his home in that place, May 12, aged 60.

Joseph Warren Cobb, M.D. Eclectic Medical Institute, Cincinnati, 1853; died at his home in Wichita, Kan., April 3, from senile debility, aged 85.

Henry Luther Miller, M.D. Atlanta (Ga.) Medical College, 1894; died at his home in Hampton, Fla., April 26, from pneumonia, aged 46.

Charles C. Prichard, M.D. University of Louisville, Ky., 1884; died at his home in Harrisonburg, La., April 29, aged 58

Peter A. Sheley, M.D. Medical College of Ohio, Cincinnati, 1876; died at his home in Louisville, May 12, aged 62.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

BANNERMAN'S INTRAVENOUS SOLUTION

A Nostrum First Exploited as a Consumption Cure—Now as a Cure-all

Veterinary medicine, apparently, does not present the opportunities for quackery that are to be found in the treatment of human beings. The probable reason for this is that live stock is valuable and its owners are not willing to take chances. Human life is cheap, and the protection it is accorded, small. These facts may explain why veterinarians with quackish tendencies go into the "consumption-cure" business. In this connection our readers will recall Eckman's Alterative, a fraudulent consumption cure put on the market by a veterinarian, and Yonkerman's Tuberculozyne, another equally fraudulent consumption cure, put out by a horse doctor.

Bannerman's Intravenous Solution is said to be the "discovery" of William Bannerman of Chicago. Bannerman is a veterinarian who claims to have "spent over twenty years in the experimental field, among the lower animals, where he found all the different diseases that man is heir to." "My fight," he declares, "was to cure the great white plague" and at last he found, so he says, "a remedy that may be instrumental in driving from the land the dreaded White Plague."

When first advertised it was known as "Bannerman's Tubercular Solution"; later, as "Bannerman's Germicidal Solution," and more recently it has been exploited as a cure-all under the name "Intravenous Solution." Being a veterinarian, Bannerman hired a licensed physician for his "secretary and medical director." To fill this position he employed for some time a man who seems to have been connected with a "diseases-of-men" outfit and who furnished Bannerman with testimonials in the form of "clinical reports."

Bannerman sells not only his "Intravenous Solution," but also an "Internal Solution." Here are some of the claims made for his nostrums: the crudest of "patent-medicine" exploiters surely never made more outrageously false ones. The spelling, punctuation and composition are original with Bannerman:

> "The Bannerman medicines are positive blood builders and germ destroyers, they regulate your bowels, drives away that Catarrh, increases your weight and energy."
>
> "They stop the cough, loosen the phlegm, throw off the mucous and make expectoration easy, stops your night sweats, reduces your fever, increases your strength restores your appetite, overcomes that weak, tired, depressed feeling."
>
> "Pneumonia a dreaded disease, will succumb to our treatment six hours after the first injection and this holds good in tuberculosis, anemia, bright's, diabetes, rheumatism in fact any disease caused by a lowered resistance."

In 1910, Bannerman published what purported to be the result of "scientific research" done by a "skilled bacteriologist and pathologist"—H. M. Eisler. This "research work" was said to have been done at the "Practitioner's Laboratory," which had for its pathologist "H. M. Eisler, M.D., Ph.D.," and for its "consulting diagnostician," Henry R. Harrower, M.D. The value of a report emanating from this laboratory will be better appraised when it is known that "Dr." H. M. Eisler had offices in the same suite as Bannerman and that he exploited the "Intravenous Solution" in his illegal and unqualified "practice."[1]

Henry R. Harrower also had offices in the same suite with the Bannerman concern, prepared advertising "copy" for Bannerman and in addition wrote and was able to get published in a medical journal—the *International Journal of Surgery*—what purported to be a report of a case of puerperal sepsis "successfully treated" by the Bannerman Solution. He also acted as a "demonstrator" for the Bannerman product in "boosting" the stuff in the eastern states. At the same time, Harrower was publishing two pseudomedical journals which, of course, obtained their share of the Bannerman advertising. Such an arrangement must have been a highly satisfactory one for everybody concerned—except the public and the medical profession.

What is the composition of this product which has been variously known as a "germicidal solution," a "tubercular solution" and an "intravenous solution"? Nobody knows except Bannerman and it is doubtful whether he knows. In 1910, Bannerman published the following "formula":

> Each fluid dram of Bannerman's Intravenous Solution represents:
> Acid Salicylic, gr. 8 1/20.
> Hydrargyrum Albuminate, gr. 1/20.
> Creosote, min. 1/20.
> Acid Carbolic, traces.
> Guaiacol, traces.
> Calcium Carbonate.
> Sodium Chlorid.
> Iron.
> Excipients, Solvents, etc.

Of course this "formula" means nothing. No quantities are given for the calcium carbonate, sodium chlorid or iron, nor is any intimation given as to the form in which the iron is used. This, as we said, was in 1910. In 1911, the published "formula" was different. It was then—and still is—given as follows:

> Each 10 c.c. of Bannerman's Solution contains:
> Acid Salicylic, 2 grs.
> Hydrargyrum Albuminate, 1/9 gr.
> Ferrum, 4¼ grs.
> Sodium Chlorid, 6 1/5 grs.
> Calcium Carbonate, 2 grs.
> Phenol Group, 1/25 gr.

In 1910, the average dose recommended was a fluidram (about 4 c.c.); in 1911, the average dose recommended was 2½ fluidrams (10 c.c.). It will be noticed that the amount of salicylic acid in the dose recommended in 1910 is ten times as great as that in the dose recommended in 1911; and the amount of the "phenol group" in the dose recommended in 1910 is more than three times as large as that in the dose recommended in 1911. Incidentally, Bannerman does not explain how he succeeds in dissolving 2 grains of a practically insoluble substance—calcium carbonate—in 10 c.c. of liquid.

Thinking physicians who have received the Bannerman literature and read the "formula" have naturally wondered what form of iron is used in the preparation. This is of especial interest from the fact that the exploiters claim to give 4¼ grains of "iron" to the dose. One physician took the trouble to write to the Bannerman concern and ask point-blank about the mysterious "Ferrum" in the "Intravenous Solution." In a letter in which he vibrated dizzily between the first and third persons, Bannerman replied:

> "I claim nothing new in it [the Intravenous Solution] save the iron and one other article. We give our formula and proportions, but the writer has spent many years in producing a form of iron which is congenial to the blood, and the secret is the way of combining these elements which produces the results which we are having from it.
>
> "He has no comment whatever to make on the iron other than to say this. It is not made out of pig iron, horseshoe nails or

1. To leave the main story for a moment: H. M. Eisler writes M.D. after his name. So far as our records show he is not a graduate of any medical college; certain it is he is not, and never has been, licensed to practice medicine in the state of Illinois. Yet H. M. Eisler has admitted under oath that in 1911 he was treating—"with drugs and medicines"—a consumptive in the city of Chicago. He used, according to the victim's relatives, the Bannerman Intravenous Solution. Instead of being benefited by Eisler's "treatment," the patient steadily grew worse and finally died. Eisler claimed that the consumptive's brother agreed to pay for the treatment and, as a matter of fact, did pay $180. Finding that the patient was becoming worse, the brother refused to pay more, whereupon Eisler brought suit for the balance of the $400, which he claimed was due him. The man who was sued declared under oath that Eisler had agreed to cure his brother and instead of so doing, the treatment had proved "improper and harmful to the patient and the patient became worse under said treatment." The jury unanimously agreed with the defendant. The result was, Eisler not only failed to get the balance of the $400 but had to pay the costs in the case.

any iron of this kind. It is an entirely new discovery, which I know you would not want me to divulge, and which I could not do and would not do . . . This Intravenous Injection is like the great God-Head, three in one and one in three. I cannot take one from it neither can I add one to it . . .

". . . the blood digests the food and carries the food to make up the different elements of man. It is the alpha and omega of all diseases. . . ."

Members of the medical profession who are using the Bannerman nostrum will doubtless be relieved to learn that they are not loading up their patients with "pig iron, horseshoe nails or any iron of this kind." This relief may be tempered by the knowledge that they still do not know just what drugs their patients are getting.

In another letter, Wm. Bannerman & Co. give physicians this remarkable information:

"Doctor, as you know there are just two elements to man—the blood and the spirit. The blood digests the food and carries it away to make up the different parts of the body."

And a little later, in the same letter, the profession is told that Bannerman's Intravenous Solution:

". . . will increase the number of red blood-cells, regulate the whites . . ."

How the leukocytes are to be "regulated" is not explained but possibly this problem is such an elementary one to a veterinary of Bannerman's capabilities that he thinks it unnecessary to go into detail. P. B. Thatcher, M.D., who, with E. J. Hackney, M.D., is exploiting the Bannerman product in Philadelphia and vicinity, refers to Bannerman as:

"The chemist whose master mind worked this hitherto unsolvable problem out to a successful conclusion. . . . ."

"Regulating" white blood-corpuscles in individuals composed of two elements—"blood and spirit"—may be a trivial thing for "master-mind" chemists, but to the average physician it appears no mean task. We are assured it can be done, however, with the Bannerman product, "$3.00 per ounce f. o. b. Chicago." In Philadelphia it sells for $5.00 an ounce.

Seriously, however, the fact that preparations of this kind, exploited as this is, should be used by any members of our profession, is well-nigh unbelievable. Happily there are very few physicians, we believe, who are so blind to their responsibilities to their patients as to use such a nostrum or who are so ignorant or thoughtless as to be influenced by the advertisements of such a concern. Possibly the following quotations, portions of which we have italicized, may be a partial explanation for its use in some instances:

"It is a treatment that can only be given by a physician, and *it is a paying, profitable treatment.*"

"Our solution can only be administered by a physician and *it will increase his practice and remunerations.*"

"They [the patients] realize that the injection is going directly into the blood *and pay up accordingly.*"

To summarize, here are the facts regarding the Bannerman product:

1. It is put on the market by a man who is neither a physician nor a pharmacist and whose only claim to medical knowledge is that of being a veterinarian.

2. It was first exploited as a cure for consumption and has been known by the various names, "Tubercular Solution," "Germicidal Solution" and "Intravenous Solution." It is now sold as a cure-all.

3. Its composition is secret.

4. A fake formula is published that is meaningless to physicians and absurd to chemists.

5. The claims made for it are both false and fraudulent.

6. It is, in short, a product whose use appeals chiefly to cupidity and ignorance.

A WORLD-WIDE MOVEMENT

Views of the Nostrum Evil on Opposite Sides of the Globe

How wide-spread and general is the movement against the nostrum evil as it affects the public both directly and via the medical profession, the following quotations from journals arriving in the same week's mail, will show. The first, from the *Australasian Medical Gazette*, is a statement made by Dr. Newman in his presidential address at a recent meeting of the Geelong (Victoria, Australia) Division of the British Medical Association:

"Side by side with the legitimate advances in the practice of medicine and surgery one cannot help noticing some methods of procedure open to criticism. We are always railing at the crass stupidity and unlimited credulity of people in general—how they are all like sheep, easily led, following every quack in droves and swallowing each newly-advertised cure-all with avidity; and yet we, as a profession, are tarred with the same brush. We are just as easily led, just as sheepish, just as easily carried away by clever advertising. Witness the advent of the innumerable proprietary medicines and preparations. How we read the trade advertisements about their wonderful qualities, how we all 'have a go' at ordering them on the strength of those advertisements, then discard them to have 'another go' at the next puffed-up drug! And the worst of it is that the more level-headed have, in self-defense, to swim with the tide, for if they do not their patients soon come to think them behind the times and transfer their patronage to some one else whom they believe to be up to date."

And this, from a report in the London *Times* of the Chancellor's Budget when read to the House of Commons:

"There is a substantial drop in medicine labels. (Laughter.) This is due to the fact that the sale of patent medicines fell off—(cheers)—largely and quite suddenly, owing to the Insurance Act—(cheers)—and, perhaps, partly to the revelations of the Committee which is sitting, which have shown what the ingredients of some of the more popular of these medicines are. (Laughter)."

Correspondence

A New Method of Treating Neuralgia of the Trigeminus by the Injection of Alcohol into the Gasserian Ganglion

To the Editor:—In THE JOURNAL, May 3, 1913, p. 1354, Dr. Julius Grinker gives credit to Dr. Härtel of Berlin for working out a method for injecting the gasserian ganglion. In 1900 Schlösser began experiments to devise a method of direct injection of the ganglion; and in 1907 (*München. med. Wchnschr.*, April 30), he published a method which, so far as I can judge, is identical with Härtel's.

I desire to call attention to the intrabuccal method of injecting the gasserian ganglion described by Ostwalt. After experimenting with both methods on cadavers, I preferred decidedly the Ostwalt or intrabuccal route. I have injected the gasserian ganglion in the living subject sixteen times. Three patients were injected with alcohol for neuralgia, and in thirteen patients 0.5 per cent. of novocain was injected to produce anesthesia for the performance of surgical operations. In two other patients I failed to reach the ganglion either by the intrabuccal or extrabuccal method. One of these patients was a child aged 9, the other a man of 70. Among sixteen cadavers I found a man of probably 40, whose foramina were so deformed as to render it impossible to reach the ganglia by the mouth or cheek method.

I am enthusiastic over the method for anesthesia, especially for resections of the upper jaw, sinus operations and operations involving the eye and orbit. I have done one craniectomy with this method of anesthesia. I have used from 1 to 2 drams of the novocain solution, injecting a little as soon as the nerve trunk is reached with the needle; the remainder is injected after the foramen is entered.

Success with this method depends largely on a close study of types and anatomic variations of individual skulls. The combined width of the superior maxillary bones, the direction of the auditory canals and the prominence of the malar processes are especially to be noted. I believe that it is well to introduce the needle a little higher than the estimated position

of the foramen for three reasons. 1. If the needle does not enter the foramen it will be blocked by the great wing of the sphenoid. 2. It is sometimes possible to follow the under surface of the great wing and feel one's way into the foramen. 3. When the foramen is entered with the needle in the high position, its point, after passing through the ganglion, is blocked by the anterior surface of the petrous portion of the temporal bone. When the needle is introduced at too low a point, and its direction is consequently more vertical than would be necessary with a higher insertion, the needle, if inserted too far, may pass over the petrous portion of the temporal bone into the superior petrosal sinus or brain.

JOHN G. SHELDON, M.D., Kansas City, Mo.

[Dr. Sheldon's statement concerning the priority of Schlösser was referred to Dr. Grinker, who replies:]

To the Editor:—In Schlösser's report on the treatment of trigeminus neuralgia by means of alcohol injections into the *branches* of the trigeminus nerve, made before the Congress für innere Medizin, held in Wiesbaden in 1907, an account of which was published in the *Münchener medizinische Wochenschrift*, April 30 of the same year, the following occurs:

"To reach the inferior maxillary nerve, I introduce my fingers into the patient's mouth, feeling for the inner end of the large wing of the sphenoid. I then pierce the cheek with a blunt stout needle, reaching the oral cavity a little below the previously introduced finger, and then I gradually work up toward the base of the skull until the inferior maxillary nerve is reached. The previously filled syringe is then attached and 0.5 gm. alcohol injected. After a short interval another 0.5 to 1 gm. of alcohol is injected."

In these directions, which are rather indefinite for any one else to follow, no landmarks being given, nor any other guide except the finger, Schlösser gives a method of injecting the *third branch* of the trigeminus—not of the *gasserian ganglion*. Härtel's merit consists in having given us an *extrabuccal* method of reaching the gasserian ganglion directly. Any one who wishes can find not only the foramen ovale, but also the situation of the ganglion which is in the same line with it, provided he follows Härtel's explicit directions. I cannot see how the correspondent can consider these methods identical, when one is a route to the branch as it leaves the base of the skull, the other a direct entrance into the skull through the foramen ovale, with a view of injecting a structure lying beyond it.

JULIUS GRINKER, M.D., Chicago.

Tariff on Surgical Instruments

To the Editor:—In THE JOURNAL, April 26, 1913, p. 1322, are some resolutions in which the tariff on surgical instruments is incorrectly stated. Instead of 50 per cent. it is 45 per cent. and the tariff on instruments in rough, instead of 15 per cent., is 30 per cent. It may also be of interest to know that the new tariff pending in Congress fixes the duty on surgical instruments at 25 per cent., whether they are finished or unfinished.

G. P. PILLING & SON COMPANY.
per C. J. PILLING, President.

[COMMENT.—The resolutions referred to were passed by the Jefferson County (Ky.) Medical Society, and we call this matter to their attention as well as to the attention of other societies which may take action on the subject.

In THE JOURNAL, May 3, 1913, p. 1382, is a comparison of the present law with the Underwood bill now pending in Congress. Although this article does not refer to the resolutions of the previous issue, in effect it corrects the error which the county society made.—ED.]

A Useful Pharmacopeia

To the Editor:—Dr. Osborne's recent article (A Last Plea for a Useful Pharmacopeia, THE JOURNAL, May 10, 1913, p. 1427) has interested me greatly. It is a shame that inert drugs still find a place in the Pharmacopeia. I urged their omission at the last Pharmacopeial Convention and frequently before that, and I am glad to note that their number is diminishing in the recent editions of the Pharmacopeia. What is of more importance, however, is the retention of multiple preparations of many drugs when they are not needed; their use by medical men should be discouraged by their omission from the Pharmacopeia. For instance, three or four preparations of iron or of cinchona are as good as all that are included in the Pharmacopeia. It certainly is possible to determine which are therapeutically and pharmaceutically the best for prescription in solution or in pill or capsule and possibly for hypodermic administration. Let us encourage the use of these best preparations and discourage the use of others. As Dr. Osborne writes, the omission of a drug from the Pharmacopeia does not prevent its use although it may discourage its employment. This was evidently the view taken by medical societies and their committees which studied the subject before the last Pharmacopeial Convention was held.

Unfortunately, the medical men elected to that convention did not attend it so generally as they should, and therefore the pharmacists who were present again kept control of the making of the Pharmacopeia.

The scope of the Pharmacopeia should be decided by medical men, and pharmacists should decide how preparations are to be made.

I wish that the revision now under way had been made on this plan.

N. S. DAVIS, M.D., Chicago.

The First Street-Railway Ambulance-Car

To the Editor:—In the *Scientific American*, April 5, 1913, p. 316, in the description of a street-car ambulance for Bahia, Brazil, the statement is made that "not until the present time has there been manufactured a conveyance for the transportation of hospital patients over the street-car tracks of any city."

That South American may not be given credit which rightly belongs to our own country I wish to point out that in December, 1894, an ambulance-car which I originated while health commissioner of St. Louis went into service. Descriptions of the car appeared in several publications at the time.

GEORGE HOMAN, M.D., St. Louis.

Swindler Maynard Brought to Bay

To the Editor:—Last fall (Oct. 5, 1912, p. 1303) you published an announcement for me concerning a $50 reward offered for information regarding a fugitive from justice, one Maynard, who had fleeced a lot of physicians and others during the spring of 1912 and then had absconded in June. The clippings which I enclose show the details of his arrest and fight to prevent just punishment. Before the days of THE JOURNAL such a fellow would probably have plied his trade for years. Here is an important use for THE JOURNAL. Our officers of the law had almost given up hope of finding him when I told them I felt sure that I could locate him with your help. Just a few days after your announcement that this man was wanted, a member of the Association telegraphed our sheriff from Lincoln, Neb., that Maynard was there, and this led to his arrest and punishment. Maynard's offenses were in collecting old accounts for merchants, doctors and lawyers and then disappearing without making returns on the collections to the merchants to whom an accounting was due. When found in Nebraska, he was presumably operating the same game. He resisted extradition, appealed to the Supreme Court and made considerable trouble before he could be taken from Nebraska to Michigan. He was finally sentenced to a term of three years in prison.

M. R. MORDEN, M.D., Adrian, Mich.

[COMMENT.—THE JOURNAL is glad to have been of service in this instance. In the General News Department of this issue is an announcement concerning another man wanted for swindling. Perhaps our readers can help in this case also.—ED.]

V. 191

Corrosive Sublimate Poisoning by Means of Antiseptic Tablets.

To the Editor:—Cases of poisoning by corrosive sublimate were in the past comparatively rare, but in view of the sensational statements in the Walker case it is probable that there will be more cases of mercuric poisoning, suicidal or accidental, by these easily obtained articles. Therefore the publication of a few facts and also theories may not be out of place.

Since the newspaper reports appeared we have had two cases of poisoning by antiseptic tablets ($HgCl_2$) in our city. One patient died; the other was given calx sulphurata and the outcome has not yet been settled.

The general antidote appears to be white of egg, and it is of this we wish to speak first. It is true that on adding egg-albumin to a solution of corrosive sublimate the albuminate of mercury is formed, but the compound is not entirely insoluble in the gastric juice; further, the hydrochloric acid set free adds to the acidity of the gastric juice. Antiseptic tablets all contain citric acid, added to overcome the hardness and alkalinity of many waters. This further increases the solubility of the mercury albuminate or prevents the union of the mercuric base with the protein body. This can readily be proved by taking some egg-albumin, adding an equal part of water and shaking and dividing into two portions. To one add solution of mercuric chlorid and to the other artificial gastric juice (0.2 hydrochloric acid) about 1:4 and some solution made by dissolving an antiseptic tablet in water, and note the difference in the appearance of the precipitates.

Is mercuric albuminate non-toxic when rendered alkaline by the intestinal juices? This question seems out of place, but must be considered when the material leaves the stomach and enters the intestines.

Mercuric compounds are acknowledged to be toxic even in small doses; mercurous compounds can be tolerated in much larger doses; hydrogen sulphid reduces mercuric to mercurous, whether the conditions are acid or alkaline, even in the presence of citric acid, a substance which inhibits many chemical reactions. Calcium sulphid (calx sulphurata, U. S. P.), 1 gm. of which is capable of reducing 2.31 gm. of mercuric chlorid, hydrogen sulphid water, natural or artificial, which can be tolerated by the stomach, and enemas of which may be administered without serious danger, will all act in this manner, first reducing the mercuric chlorid to mercurous chlorid and further to mercurous sulphid.

On such grounds it would seem that the sulphids are the logical antidote for mercuric poisoning. Much work will have to be done on this, and we would not have published the unfinished work had not this matter been brought so prominently before the public by the press in the recent Walker case.

EDWARD H. HAYWARD, M.D., Detroit,
Director, Board of Health Laboratory.
W. H. ALLEN, PH.G., Detroit,
Dean, Pharmacy Department, D. T. Inst.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WHY VACCINES INSTEAD OF SERUMS ARE GIVEN IN INFECTIONS

To the Editor:—In chronic infection, for example, rheumatoid arthritis following infection from any focus, the infection is combated by the tissues of the body in the production of antibodies for the purpose of neutralizing the toxin. A vaccine is given—why not a serum? Surely there are enough toxins in the patient to be a constant maximal stimulant in the production of all the antibodies that can possibly be made. Accepting this, how can a vaccine be of any value in stimulating the production of more antibodies when it is producing its maximal amount, and why does it not overwhelm the system with toxins? A serum contains these antibodies; why not add them to the blood? R. C. B.

ANSWER.—Infections are roughly divisible into two classes: In the first class a true toxemia is produced which is met by the organism with the production of antitoxin. In these diseases the principal disturbances are caused by secretory toxic products which stimulate the formation of antitoxins. The main diseases of this kind are tetanus and diphtheria. In the second class reactions are produced by the proteins of the bacteria themselves, which call forth antibodies like the agglutinins, opsonins, bactericidal substances, etc. Infections of the first class are properly treated by antitoxins as in the case of diphtheria and tetanus. As a general rule, the other infections need immunizing bodies which as yet, at any rate, cannot be obtained regularly in therapeutic serums. To combat these infections an active immunity is necessary. In the chronic infections the bacteria are usually confined to a local focus from which toxic and other substances with antigenic powers reach the blood, but often not in sufficient quantity to excite the production of an active immunity. In such cases, if some of the bacterial substances be injected either into the subcutaneous tissue or into the blood, the organism is roused to the production of an active immunity which does not readily occur in response to the soluble substances which reach the blood from the infected focus. In other words, it is believed that there are not enough "toxins in the patient to be a constant maximal stimulant in the production of all the antibodies that can possibly be made."

TECHNIC OF ABDERHALDEN'S SERODIAGNOSIS FOR DEMENTIA PRAECOX

To the Editor:—I am very anxious to get a copy in English of Abderhalden's technic for serodiagnosis of dementia praecox. Where can I obtain it? R. R. IVEY, M.D., Tuscaloosa, Ala.

ANSWER.—The technic of Abderhalden's serodiagnosis for dementia praecox as worked out by A. Fauser is published in the *Deutsche medizinische Wochenschrift*, Dec. 26, 1912, and is based on the method of diagnosis for pregnancy. The technic of this method is published at some length in the April, 1913, number of *Surgery, Gynecology and Obstetrics*.

The essential of the method is the determination in the dialysate of the products of digestion of proteins. In pregnancy the serum contains ferments capable of digesting placenta or fetal products. These are therefore mixed, after thorough washing, with the serum and subjected to dialysis. If the dialysate shows the presence of products of digestion of proteins, the test is positive. In the test for dementia praecox the author used pulped-up testicles with some serums, on the theory that the affection is connected in some way with the presence of incompletely digested products from the sexual organs. In other cases he used brain tissues in the same way.

EXOSTOSIS OF OS CALCIS

To the Editor:—Please give me information regarding the surgical treatment of exostoses and "spines" occurring on the os calcis and causing painful and tender feet. Also give references to literature. It seems that this subject is badly neglected in our modern surgical text-books.

FREDERICK LONG, M.D., Bakersfield, Cal.

ANSWER.—Operation is always demanded in these cases to effect a cure. The incision (straight or curved) is made on the inner side of the foot, close to the sole and over the exostosis. The affected portion of the bone is exposed by dissection and the spur is removed with a chisel. The wound is closed without drainage.

Following are references to the literature:

French, H.: Exostosis of Os Calcis, *Practitioner*, London, July, 1910.
Griffith, J. D.: Osteophytes of Os Calcis, *Am. Jour. Orthop. Surg.*, February, 1911.
Davidson, A. J.: Exostoses of Os Calcis, *Therap. Gaz.*, April, 1911.
Colvin, A. R.: Bursae and Exostoses (Spurs of Os Calcis), *St. Paul Med. Jour.*, September, 1911.
Berry, J. M.: Exostosis of Os Calcis, *Albany Med. Ann.*, October, 1911.
Meisenbach, R. O.: Pathogenesis of Spur Formation on Os Calcis, *Am. Jour. Orthop. Surg.*, February, 1912.
Sever, J. W.: Apophysitis of Os Calcis, *New York Med. Jour.*, May 18, 1912.

POSTGRADUATE WORK ABROAD

To the Editor:—Can you give me information regarding study abroad? I want to know what courses are to be had in Berlin or Vienna and whether or not a knowledge of the language is essential. ROBERT B. STEWART, M.D., Topeka, Kan.

ANSWER.—These questions are fully answered in THE JOURNAL, April 12, 1913, pp. 1175-77, and at greater length in a reprint, a copy of which will be sent on receipt of 10 cents.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

IOWA: Capitol Building, Des Moines, June 2-4; State University, Iowa City, June 5-7. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KANSAS: Topeka, June 10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Armory, Louisville, June 3-5. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: New Orleans, June 5-7. Sec., Dr. A. B. Brown, 108 Baronne St., P. O. Box 1060.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Pathological Laboratory State University, Minneapolis, June 3. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Capitol Bldg., Jackson, June 3-4. Sec., Dr. E. H. Galloway.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 16-18. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Morehead City, June 12. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 2-5. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Harrisburg, Philadelphia and Pittsburgh, June 23-25. Sec., Mr. Nathan C. Schaeffer, Department of Public Instruction, Harrisburg.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St.

TEXAS: Capitol Bldg., Austin, June 24-26. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

Colorado April Report

Dr. David A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written examination held at Denver, April 1, 1913. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 7, of whom 5 passed and 2 failed, including one osteopath. Thirteen candidates were licensed on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Colorado	(1911) 82.8; (1912)	78.1, 81.7
Louisville Medical College	(1894)	75.3
Non-graduate		86.6

FAILED

Nagasaki Medical School, Japan	(1906)	31.9

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	State Licenses
Georgetown University	(1911)	Dist. Colum.
Rush Medical College	(1903); Illinois; (1912)	Kansas
Northwestern University Medical School	(1911) (1912)	Illinois
Keokuk Medical College	(1895)	Iowa
Johns Hopkins University	(1909)	Oregon
University of Michigan, Dept. of Med. and Surg.	(1903) (1911)	Illinois; Michigan
Marion-Sims College of Medicine	(1898)	Illinois
University of Buffalo	(1899)	Illinois
University and Bellevue Hospital Med. College	(1903)	New York
Western Pennsylvania Medical School	(1891)	Ohio

The following questions were asked:

ANATOMY

1. Describe the upper end of the tibia. 2. Name the bones of the carpus and describe one of them. 3. Describe the temporomaxillary articulation. 4. Name the muscles attached to the radius. 5. Give the origin, insertion and nerve supply of the following muscles: masseter; tensor vaginae femoris; diaphragm; soleus; sternomastoid. 6. What spinal nerves enter into the formation of the anterior crural nerve and what muscles does it supply? 7. Give a brief description of a cross-section of the spinal cord in the cervical region. 8. What are the relations of the right kidney? 9. Name the valves of the heart and describe one of them. 10. Describe the prostate gland.

PHYSIOLOGY

1. What purpose is served by the valves in the veins, and where are they most generally placed? 2. (*a*) Describe respiration and what keeps it going. (*b*) What is its object? Define complemental, reserve and residual air. 3. Describe the location at which the different heart sounds can be heard the plainest and tell what produces each sound. 4. Why does the normal temperature of the body remain the same during cold and warm weather? 5. What are the principal morbid effects of division of the fifth cranial nerve? 6. Give the origin, shape, size and functions of the white corpuscles. 7. What are starches, how, when and where digested and carried into the circulation? 8. Distinguish serous from mucous membrane, give example of each. 9. Describe the construction of the eye, and give the physiology of vision. 10. Mention the various methods of eliminating waste products of the body.

CHEMISTRY

1. Define and give examples of (*a*) organic chemistry; (*b*) inorganic chemistry. 2. Give the formula, preparation, and a test for nitrate of silver. 3. Give the sources of oxygen, and its relation to combustion and to life. 4. What are aldehyds? Give their properties and principal derivatives. 5. Give the general properties of alkaloids. 6. Give an explanation of the formation of ammonia in the urine. 7. Give two chemical tests for blood. 8. Define bilirubin, with test for its presence. 9. Give test for excess of hydrochloric acid in gastric contents. 10. How is an excess of urates determined?

PATHOLOGY

1. Give a description of adenocarcinoma under the microscope. 2. Describe *Bacillus diphtheriae*. 3. Exclusive of changes in the intestine, what is the morbid anatomy of typhoid fever? 4. What conditions result from disease of the pituitary body? 5. Name some of the common fluids used for hardening tissues preparatory to section, with the strength ordinarily used. 6. Describe the phenomenon known as inflammation. 7. Give the morbid anatomy of acute endocarditis. 8. Describe the morbid anatomy of acute lobar pneumonia. 9. Discuss the cause of death from burns. 10. Discuss anaphylaxis.

SURGERY

1. Describe the fractures of the elbow and the method of examination. 2. Give the symptoms and diagnosis of fracture of the surgical neck of the humerus. 3. Give the symptoms and complications of fracture of ribs. 4. Define toxemia, septicemia and pyemia. 5. Give the symptoms and causes of a subphrenic abscess. 6. Give the symptoms and diagnosis of tuberculous arthritis. 7. Give the symptoms and etiology of varicose veins. 8. What are the causes and symptoms of acute intestinal obstruction? 9. Describe the symptoms of abscess of the liver. 10. Discuss benign and malignant tumors of the breast.

OBSTETRICS

1. Name possible sources of puerperal hemorrhage and treatment of each. 2. What would lead you to suspect extra-uterine pregnancy? 3. In breech presentation describe the different methods of delivering the after-coming head. 4. You are called on to take care of a woman in labor; describe how you would proceed to sterilize your own person. 5. Give symptoms of rupture of the uterus. 6. How may you prevent perineal lacerations? 7. Outline treatment for the prevention of ophthalmia neonatorum. 8. Write two pages on the preventive treatment of eclampsia. 9. Give the treatment of eclampsia. 10. Give the mechanism of L. O. A.

TOXICOLOGY

1. If you were called in to a case with the following symptoms what would be your diagnosis as to cause? Immediate loss of muscular power; giddiness, person staggers and falls to the ground; respiration hurried and gasping; pupils dilated and insensible to light; eyes glassy and protruding; extremities cold, and sometimes convulsions; breathing performed in sobs; face pallid; jaws spasmodically closed; frothing at the mouth; death occurs by violent convulsions. 2. Having thus diagnosed the above case, what would be your treatment if you saw case before death? 3. What do you understand by neurotic poisons? Explain. 4. What are the symptoms? 5. Give symptoms of poisoning by chloral hydrate. 6. Treatment and post-mortem appearances. 7. Give symptoms of one asphyxiated by burning charcoal. 8. Give post-mortem appearances. 9. Give symptoms of one poisoned by oxalic acid. 10. Give treatment of one poisoned by oxalic acid.

SYMPTOMATOLOGY

1. Describe vesicular breathing; contrast it with bronchial breathing; tell where each may be heard in health; what is the significance of bronchial breathing in an area in which vesicular breathing is normal? 2. What are the causes, symptoms and signs of purulent pleurisy? 3. Name the animal parasites of man, and tell what symptoms they cause and how their presence is proved. 4. What are the causes of hematemesis? How is it distinguished from hemoptysis? 5. Describe the symptoms and complications of scarlet fever. 6. Give the symptoms, complications and diagnosis of cerebrospinal fever. 7. What is natural immunity? Acquired immunity? Discuss the nature of immunity. 8. Give the symptoms of arthritis deformans. 9. What are the causes, symptoms and physical signs of dilatation of the stomach? 10. What is the symptomatology of acute endocarditis?

Book Notices

GUIDE TO MIDWIFERY. By David Berry Hart, M.D., F.R.C.P.E., Lecturer on Midwifery, School of the Royal Colleges, Edinburgh. Cloth. Price, $6 net. Pp. 765, with 268 illustrations. New York: Rebman Company, 1912.

The plan of this book differs from that usually followed in text-books for students or general practitioners. The work is divided into two parts. The material ordinarily used in obstetric teaching occupies most of the first part. In the second part are elucidations of difficult points and summaries of new operations and of views and theories which might distract the reader, especially a novice, in a first study of a subject.

The author says that the weak point in many hard-working students is that they know the verbal and not the actual. The volume has been prepared partly with the idea of overcoming this fault. Hence the various subjects are treated briefly and succinctly. The chapters are short but numerous, the text is clear, and the paragraphs are introduced by bold-faced type. The necessary facts of obstetrics are presented in a first series of twenty chapters. These include such fundamental topics as the bony pelvis, topographic anatomy, menstruation, ovulation, the changes occurring in the pregnant uterus and the development of the embryo, placentation, the symptoms and signs of pregnancy and its differential diagnosis, normal labor in its various phases, and its management. Breech, occipito-posterior and face presentations are classified as borderland cases, as is also multiple conception.

The pathology of pregnancy occupies eight chapters and includes ectopic gestation and the pathology of the placenta and its membranes. Abnormal labor is particularly well presented for so brief a text from the point of view of three etiologic factors: faults of the uterus, of the child and of the elastic structures and bony pelvis. Operative obstetrics is presented with respect to the most recent technical advances. The final chapters in this portion of the work are devoted to the puerperium and its pathology, with some space given to the infant and natural and artificial methods of feeding. As intimated the second part is unique.

An interesting chapter here is that on "Evolution in Obstetrics," in which Darwinism, Weissmannism and Mendelism are discussed in relation to practical points. The various theories of eclampsia are likewise excellently presented. The author expresses the opinion that theoretically a book on midwifery is better without illustrations at all, the student having access to laboratory and museum. This not being practicable, he has interspersed his text with excellent drawings, many reproductions of the masterpieces of Zweifel, Bumm and Nagel. A bibliography, not complete but giving all most modern references, is found at the end of the volume. Altogether, this new text is another concrete expression in classic form and characteristic racial brevity of the Edinburgh school of midwifery.

GLYCOSURIA AND ALLIED CONDITIONS. By P. J. Cammidge, M.D. Cloth. Price, $4.50 net. Pp. 467. New York: Longmans, Green & Co., 1913.

Two facts are impressed on one in examining a modern work on diabetes like Cammidge's comprehensive work. The first is the complexity of the chemical problem involved in the etiology, diagnosis and treatment of glycosuria. As the author states, glycosuria is essentially a chemical problem, and hence he approaches it primarily from the chemical side. A large section is devoted to a study of the nature of the carbohydrates and the tests, both qualitative and quantitative, by which the presence and degree of glycosuria are recognized. This section occupies 120 pages.

The other striking fact is the disappearance of distinctions between the milder forms of glycosuria and the severer forms usually classed as diabetes. The one grades into the other by such insensible degrees that a common pathogenesis and common principles of treatment may be applied to all cases. The chemical consideration of the subject is very thorough, and is followed by an account of experimental glycosuria and the milder forms of transient glycosuria. The relation of glycosuria to internal secretion receives the attention which it deserves from the results of recent investigations.

Persistent glycosuria, or diabetes proper, forms the largest section of the book. The author seems to adhere to the theory that glycosuria is due to the access of a superabundance of sugar to the blood, as maintained by von Noorden and others, rather than to a deficient power of utilizing the sugar supplied. This necessitates abandoning the view that diabetes is a distinct disease, and looking at it as a symptom-complex which may be brought about by various agencies.

Naturally, from his previous studies, the author's interest is largely centered in the relation of the pancreas to diabetes, and he gives much space to the methods of diagnosing disease of the pancreas, in which his "pancreatic reaction" figures quite prominently. By this means he has examined the urine in 168 cases of diabetes and obtained a positive result, indicating that the disease was due to a lesion of the pancreas, in 72 per cent.

The dietetic treatment is constructed on the usual lines, good directions being given for the ascertaining of tolerance and the regulation of the proportions of protein, carbohydrates, etc. The author very properly warns against accepting without careful investigation the claims made for the various diabetic flours and breads on the market. Rather more credence is given to the claims made for pancreatin, taka-diastase, papain, etc., than the evidence seems to warrant.

Drug treatment receives a somewhat extended notice without advocacy of any particular remedy. The author suggests that the varying success which results from the employment of such a variety of drugs confirms the view that diabetes is not a disease, but a series of symptoms which may arise from a variety of causes.

The book closes with chapters discussing the appearance of other forms of sugar in the urine, the nature of alkaptonuria and diabetes insipidus, and an appendix giving the general properties and reaction of the sugars and related substances.

The book forms one of the most comprehensive treatises on this very important subject.

THE INTERNAL SECRETORY ORGANS: Their Physiology and Pathology. By Prof. Dr. Artur Biedl, with an Introductory Preface by Leonard Williams, M.D., M.R.C.P. Translated by Linda Forster. Cloth. Price, $6 net. Pp. 586. New York: William Wood & Co., 1913.

The subject of the internal secretions is not only one of the most interesting but also one of the most important subjects in modern medicine. The complex animal body is not simply an agglomeration of organs working independently of each other, but the functions of all the organs are related and correlated for the benefit of the whole. This regulation of function is brought about primarily by the so-called internal secretions which are themselves the products of certain organs. The great importance of these internal secretions is constantly becoming more apparent with the growth of our knowledge concerning them; and while little more than a beginning has been made, sufficient is known to show that it is impossible for any physician to be abreast of the times who is not familiar with the work done along this line. The author of this book has long been foremost in work and thought in this interesting field. The entire subject of the internal secretions is comprehensively discussed from the points of view of the physiologist, the pathologist and the therapeutist. The internist and the surgeon alike will find much of the greatest value in a careful study of this work. The translation into English has been well done, retaining the strict meaning of the original German without harshness of expression.

THE TREATMENT OF INFANTILE PARALYSIS. By Oskar Vulpius, M.D., Professor Extraordinary at the University of Heidelberg. Translated by Alan H. Todd, M.B., B.S., B.Sc. (Lond.), House Surgeon, Guy's Hospital. With Introduction by J. Jackson Clarke, M.B., (Lond.), F.R.C.S. Cloth. Price, $4 net. Pp. 318, with 243 illustrations. New York: William Wood & Co., 1912.

This is the largest and most complete treatise in English on infantile paralysis. It will be of interest to the general surgeon as well as to the orthopedic surgeon, since its chief aim is to describe and illustrate the surgical treatment of the deform-

ities due to anterior poliomyelitis. Twelve pages are devoted to apparatus, and 253 to the surgery of paralysis. The book is abundantly illustrated from the author's extensive material, and his views are clearly and forcibly expressed. Many Americans will disagree with certain of his opinions, as, for instance, that a transplanted tendon should almost invariably be attached to the paralyzed tendon whose function it is to assume (Lange and his followers holding that attachments to periosteum or bone are more logical and successful); or, again, that neuroplasty should be performed in suitable cases six months after the onset of the paralysis; or that arthrodesis of the ankle may properly be performed in children as young as 8 years. The author also believes that partition of function is possible; that, for example, the gastrocnemius may be split longitudinally into two separate muscles, either of which will be capable of acting as a dorsal flexor of the foot if properly attached, while the other half remains a plantar flexor.

Thirty-two pages are devoted to nerve transplantation, with the conclusion that as yet the results are too uncertain for its employment in any but exceptional cases. Artificial silk ligaments, boiled in corrosive sublimate, as used extensively by Lange and many others, are not advocated by Vulpius with any degree of warmth. His criticism of Whitman's operation for pes calcaneocavus is not competent, since ankylosis is neither produced nor desired in this operation. It is perhaps to be regretted that the actual operative technic of some of the author's procedures is not shown in greater detail by photograph or diagram and by more minute description. The book is well produced, and is to be recommended highly to those interested in this kind of surgery.

DIET AND HYGIENE IN DISEASES OF THE SKIN. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. Cloth. Price, $2 net. Pp. 194. New York: Paul B. Hoeber, 1913.

The average practitioner is fairly well prepared to treat diseases of the skin with up-to-date methods so far as applications go. The important theme in medicine to-day is prevention, and many an obstinate skin affection can be eradicated only by the removal of some underlying systemic condition partly through medicine and oftener through diet and hygiene. As a treatise on this subject, Dr. Bulkley's book will be welcomed. It is clear, sane, helpful. It represents his careful observation, study and deduction. The details of special diet and the tables will be of practical service, and the bibliography will aid those who wish to read further.

DIABETES: ITS PATHOLOGIC PHYSIOLOGY. By John J. R. MacLeod, M.B., Ch.B., D.P.H., Professor of Physiology, Western Reserve University, Cleveland. Cloth. Price, $3 net. Pp. 224. New York: Longmans, Green & Co., 1913.

This is a contribution to the theory of diabetes from the chemical and experimental side which aims to put clearly before the reader the source of the sugar of the blood and the manner in which it is produced and destroyed. The methods of chemical analysis are well described and the action of the nervous system, of the ductless glands and particularly the process of glycogenesis, are described. The probable cause of hyperglycemia and the occurrence and explanation of the formation of sugar from fats and proteins (glyconeogenesis) are discussed. While the book is excellent in its sphere, it must be noted that no discussion of the symptoms or treatment of diabetes is attempted.

THE MEDICAL DISEASES OF CHILDREN. By T. R. C. Whipham, M.A., M.D., M.R.C.P., Physician to the Evelina Hospital for Sick Children. London Medical Publications. Cloth. Price, $3.75. Pp. 417, with 67 illustrations. New York: Oxford University Press, 1912.

This is an interesting presentation, in rather condensed form, of information on the medical side of the diseases of children. In a brief work for easy and frequent consultation, one would particularly desire helpful suggestions in the way of management and treatment. In this respect one is liable to be disappointed with the volume. It is well printed and abundantly illustrated, but poorly bound.

Medicolegal

Liability under Contract to Furnish Services of a Particular Surgeon in Case Left to His Assistant

(*McDaniel vs. United Railways Co. of St. Louis (Mo.), 148 S. W. R. 464*)

The St. Louis Court of Appeals affirms a judgment for the plaintiff for damages from an alleged breach of contract made for the defendant by its claim agent to furnish the plaintiff the services of a certain surgeon possessing peculiar skill and ability for the treatment of her injury, which was received through the negligence of the defendant. The court holds, too, that the contract could be proved by oral evidence notwithstanding a contemporaneous writing between the parties remotely touching on the subject-matter.

The court was not impressed with the argument that a verdict should have been directed for the defendant because it appeared that it furnished the services of the promised surgeon, who occasionally visited the room in which the plaintiff was confined in the hospital. The court says that this argument involved the idea that the contract was one which might be performed by another surgeon in the promised one's employ. It appeared that though the plaintiff had suffered an intrascapular fracture of the surgical neck of the femur, which is a most difficult injury to successfully treat, the promised surgeon at no time assumed personal charge of the case. Instead, a young physician in his employ, who had been in practice but three years, attempted to set the bone and adjust and maintain a Hodgen splint in proper position. It was not enough that the promised surgeon dropped into the plaintiff's room frequently while she was confined in bed and inquired as to how she felt, and on several occasions laid hold of the rope passing from the ceiling by which the plaintiff's foot was suspended, and on one occasion passed his hand over the plaintiff's hip in near proximity to the fractured bone. There can be no doubt that there are undertakings in which one party contracts for the personal services of another for his skill, knowledge and experience. When, therefore, it appears the contract stipulates that the services shall be rendered by some particular person, possessing peculiar knowledge and skill with respect to the undertaking, because of the peculiar knowledge, skill and experience of such person, it implies the services are to be personally rendered and that the performance may not be delegated to another. It was competent for the jury to find that the contract required the defendant to furnish the plaintiff with the personal services of the promised surgeon, and not his inexperienced assistant, in an endeavor to bring the ends of the fractured femur in apposition, adjusting the Hodgen splint and the subsequent treatment thereabout.

Nor does the court agree with the contention that though the promised surgeon did not personally perform the duties, in compliance with the obligation which the defendant assumed in the contract, the plaintiff was nevertheless precluded from a right of recovery as for a breach because she accepted the services of his assistant as and for compliance therewith. In those cases where such principle properly obtains there always appears the element of voluntary acceptance. Every precept of natural justice repelled the suggestion that the facts here in judgment invited the application of that principle, to the end of denying the right of recovery as a conclusion of law. It may have been proper enough to submit this theory to a jury for a finding thereon to the effect that the defendant had discharged the contract, if it be found that plaintiff had voluntarily accepted the services of the assistant, instead of the promised surgeon, as a full compliance therewith. But no such issue was framed in the case by instructions, and it is certain that the court may not declare such a result as a conclusion of law. It appeared that the plaintiff was on her back, confined in a hospital of the defendant's choosing, with a fracture of the femur, and her limb suspended in a sling attached to the ceiling. The proof was that she suffered intense pain through-

out the entire period and was entirely helpless. She inquired several times for the promised surgeon and was assured that she was all right. Certainly she was not competent to judge as to whether or not her fractured bone was properly set and the process of healing going forward, and, no doubt, she supposed proper treatment was had and obtained throughout. It would be a harsh judgment indeed to assert, as a conclusion of law on these facts, that the plaintiff's right of recovery was precluded for the reason that she voluntarily accepted the substituted services of the assistant for those to be performed by the promised surgeon.

Neither could it be held that a verdict should have been directed for the defendant because the damages sued for were so uncertain of ascertainment as to enter the realm of mere conjecture. This argument furnished the court a subject for much reflection and considerable anxiety as to a proper solution of the question presented. In considering it, however, it should be remembered that the requirement that the damages must not be uncertain is satisfied by a reasonable certainty in this respect. In other words, it is sufficient if there be such certainty thereabout as satisfies the mind of a prudent and impartial person that the damages sued for may be traced as a reasonable probability to the breach of the contract. Then, too, the law, it has been well said, never insists on a higher degree of certainty than the nature of the case admits. In almost every case the damages to be measured are more or less uncertain, to a considerable degree; but the question of uncertainty presented here related to the cause of the damage rather than to uncertainty as to the measure or extent thereof. Therefore, if it might be said that the facts and circumstances in evidence were insufficient to suggest to a reasonably prudent, impartial man that the damages proved flowed as a reasonable probability from the defendant's breach of the contract, the argument was sound; otherwise, the question was one for the jury.

The court believes that it was competent for the jury to infer that, had the plaintiff been treated by the promised surgeon instead of the assistant, a proper union of the bone would have taken place, for, if the evidence on her part was to be believed, her health and condition were most favorable to such a result. And though it be true that in suits for the breach of contract the damages should be traceable to the breach and appear to flow from it as a reasonable probability, it is not essential that they be shown as a certainty to follow from that cause. It will suffice if enough appears in the case to enable the jury to reckon such a result from the common experiences of life through the application of that degree of sense usually possessed by an impartial man of ordinary prudence. The court, however, has been unable to find a case in point.

Exhibitions of Person Where No Injuries Visible—Medical Works as Evidence

(Landro vs. Great Northern Railway Co. (Minn.), 135 N. W. R. 991)

The Supreme Court of Minnesota says that it is not to be understood as giving its approval to the exhibition of the plaintiff's person before the jury, and the experiment made to show the presence of symptoms claimed by his experts to indicate a dislocation or partial dislocation of the sacro-iliac joint, including groans by the plaintiff. It is within the discretion of the trial court to permit a plaintiff in a personal injury case to exhibit his injuries to the jury, in order to show their extent or to enable a surgeon to demonstrate their nature and character. It is also discretionary to permit tests and experiments in the presence of the jury in a proper case and under proper safeguards. But where there are no wounds, no injuries that can be seen by the jury, it is improper to permit the exhibition of the plaintiff's person for the purpose of conducting experiments to prove that he will cry out with pain, or that his muscles will grow rigid, when his legs are manipulated in a certain manner. It was a hotly disputed question whether the plaintiff had any "objective" symptoms; but it was quite clear that he had none that could be seen by the jury. Trial courts should always exercise this discretion with caution, and when it appears that the probable effect of the exhibition will be, not to instruct the jury as to the nature and extent of the injuries, but to excite their sympathies or inflame their passions, it should not be permitted.

Medical books, however celebrated their authors, are not admissible in evidence, because the author is not under oath and not subject to cross-examination. But, for the purpose of testing the qualifications as well as the credibility of an expert, it is generally held that when the witness has testified that the authorities support his view, he may be asked on cross-examination whether a medical work, admitted by him to be a standard authority, does not express a contrary view. And it is no objection to such cross-examination that incidentally the opinions of the author are thus brought before the jury. Theoretically the author's opinions are not substantive evidence, but are merely impeaching evidence.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Proctologic Society, Minneapolis, June 16-17.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Rhode Island Medical Society, Providence, June 5.
Washington State Medical Association, Everett, July 14.

MEDICAL ASSOCIATION OF GEORGIA

Annual Meeting, held in Savannah, April 16-18, 1913

Under the presidency of DR. W. W. PILCHER, Warrenton.

Officers Elected

For a list of the newly elected officers see THE JOURNAL, May 3, p. 1368.

Treatment of Pneumonia

DR. J. W. PALMER, Ailey: Every case of pneumonia is a law unto itself. Certain symptoms in each case will call for special therapeutic measures. Do not give any more stimulants than necessary. If the heart does not respond to digitalis, use strychnin and epinephrin. Camphor should be used if there is restlessness or delirium. Be sure and keep the bowels open. For pain or cough, give morphin or codein, subcutaneously, but do not give cough mixtures. I have no confidence in venesection, or in the use of antipneumococcic serum or mixed vaccines. Sufficient ventilation and absolute quiet are absolutely necessary.

DISCUSSION

DR. DANIELS, Savannah: My experience has been that the best indication in the treatment of pneumonia is the blood-pressure. So long as this is 1 per cent. in millimeters, of the heart-beats per minute, the patient is doing well. The best stimulant of all is cold air. When the abdomen begins to get tympanitic and the patient has distressed breathing and bad heart-action, washing out the stomach with sodium bicarbonate solution will often give relief and tide the patient over a critical period.

DR. CLAUDE A. SMITH, Atlanta: My experience has led me to the conclusion that the old-fashioned fly-blister is the best counterirritant we can use. In the congestive stages, when there is a high-bounding pulse, there is nothing better than veratrum. Watch it closely, however, and when the pulse is reduced to about normal, withdraw it.

DR. MALCOLM L. CURRIE, Vidalia: The first thing needed in pneumonia is to stimulate the liver and open the bowels. For the nervous excitement, etc., I give a prescription containing small doses of tartar emetic and morphin, small doses of tincture of aconite and gelsemium, and ammonium carbo-

nate and chlorid, with syrup of wild cherry. I am not satisfied to treat a patient with pneumonia and not use blistering.

DR. W. B. HARDMAN, Commerce: A blister seldom does much good in lobar pneumonia; in fact, I think that we are deceived concerning the good we do with our remedies. Most young patients—children and young adults—will recover if you do very little for them. Give plenty of rest, plenty of fresh air and keep them quiet.

DR. L. C. FISHER, Atlanta: The one thing that has impressed me most in the treatment of ether pneumonia has been fresh air, together with care of the blood-pressure. When I have surgical pneumonia patients I put them on the roof-garden.

DR. L. C. ALLEN, Hoschton: I do not approve of opium in pneumonia, as it locks up the secretions and causes nausea, producing paresis of the bowels. Besides, opium is decidedly a respiratory depressant; and in pneumonia we already have labored breathing.

DR. H. H. MCGEE, Savannah: The best remedies, outside of food, are hot and cold water and fresh air. The intestinal tract should be kept open. I wish to protest against the use of depressants in pneumonia. The heart is burdened enough and it needs supportive treatment and not depression.

DR. STEWART R. ROBERTS, Augusta: Gibson, in Edinburgh, said that as the patient gets worse, the blood-pressure becomes lower and the pulse-rate rises. In a young person of 20 years, with a strong, massive frame, I can conceive that a little aconite would help the patient, but only for a day or two. A little venesection might also help. To say, however, that in every case of pneumonia one should give aconite or resort to bleeding is not wise. If I had to choose between medicine and fresh air in a case of pneumonia, I would throw the medicine away and give the fresh air.

Pasteur Treatment of Rabies

DR. C. D. GREER, Atlanta: I have treated 1,107 cases, having personally administered at the laboratory the full course of treatment to about a third of the human patients, which necessitated giving over 7,500 hypodermic injections. Among these, only one abscess was produced. Out of these cases there have been only three deaths. In each instance the disease developed between the fourteenth and the seventeenth days of the treatment. The patients had severe face injuries, which are the most dangerous and those from which practically all the deaths result.

DISCUSSION

DR. T. BYRON KING, Sandersville: If a wound is treated properly immediately after infection, is it absolutely necessary for the Pasteur treatment to be given?

DR. J. G. DEAN, Dawson: We have treated twelve cases of hydrophobia with serum obtained from the state fresh every day; but there is an impression prevailing among the people that the heads of the dogs suspected of having the disease have not been carefully examined by the State Laboratory, possibly because every dog whose head was sent there has been pronounced as having had hydrophobia.

DR. VIRGIL O. HARVARD, Arabi: Last year a dog in our town bit three or four other dogs before it ended its career. I sent its head to the State Laboratory and the next day received a telegram that Negri bodies had been found. I prevailed on the people to shut up the dogs that had been bitten by the first one. This was done and all remained well.

DR. M. J. JOHNSON, Wayeross: If after a child is bitten the question arises as to whether or not the dog is rabid, the dog should be properly caged and watched for ten days. If it finally becomes necessary to treat the patient we have still a sufficiently long time, as I understand it, in which to do so.

DR. CLAUDE A. SMITH, Atlanta: I was associated for two years with the giving of the Pasteur treatment, and our patients came from all over the South, especially from Louisiana. At that time the Negri bodies were not known. I advocate having this treatment provided free in every state. In the attempt to answer the question, When does a dog have rabies? I inoculated dogs, cats and other animals with the material obtained from known cases of the disease; and I was impressed with the fact that no one could tell this by merely looking at the animal. Although all those inoculated developed the symptoms on the fourteenth day, one would often have to nag and worry the animals before they would attempt to bite. Dogs often have hydrophobia when the fact is not suspected, as they do not bite any one.

DR. H. F. HARRIS, Atlanta: I am not the one to make the examinations personally in the State Laboratory, but my instructions have been—particularly in connection with the matter of rabies—that the examinations be made always in the most careful manner and as soon as possible. Our ability to determine the presence of rabies by the existence of Negri bodies or by any other means is limited. While it is believed to be the case that when the Negri bodies are found in the nerve-cells, rabies exists, instances are found in which these bodies are not obtained on examination, yet in which, if we take the brain substance and inoculate it into animals, these animals develop the disease. Therefore the presence of Negri bodies does not afford a final and definite diagnosis. There are but few things in medicine that are absolutely fast and fixed. A dog is not necessarily healthy because a person says that it is playful, and beyond a doubt the examination for Negri bodies, when positive, is of more value than the opinion of any person. As hydrophobia is a disease from which probably no one has ever recovered, it would be atrocious to examine the head of a dog and say that the animal was all right, and then have the unfortunate victim later develop the disease; therefore it is necessary for us, even in doubtful cases, to say that the diagnosis is positive. There is no harm done by this preventive treatment, and there is always the possibility of the saving of a life by its means.

Chronic Nephritis: Dietetics and Treatment

DR. R. F. WHEAT, Amsterdam: All cases of nephritis are due to the production or accumulation of an abnormal substance that acts like an acid. Medication should be employed as needed. Confine the patient to bed in a recumbent position till the symptoms of edema and circulatory disturbances have disappeared. All measures should be avoided which cause marked fluctuations in the blood-pressure. I mention an absolutely milk diet only to condemn it in all cases in which the uremic symptoms are alarming. A salt-free diet causes the edema to decrease rapidly. Patients should not take over 35 ounces of fluids daily, if there is a tendency to dropsy. If the dropsy is very great, aspirate the fluid off from the peritoneal cavity.

Rest in Nephritis

DR. H. F. HARRIS, Atlanta: In complete rest, we require only half the nourishment we need when engaged in active exercise. The kidneys are probably rested to a corresponding degree with the amelioration of any irritation existing within them. In a number of cases, I have had very good results from treatment by means of long-continued rest. In the beginning an absolute milk diet is always advised; but later, six or eight raw eggs, without salt, may be given. This treatment usually lasts eighteen months. Patients may have all the water they wish. Drugs have but little place in this treatment which, if persisted in, will finally make the patients, to all intents and purposes, well.

DISCUSSION

DR. W. R. HOUSTON, Augusta: It is unwise to put more work on the kidneys than they can do; but, of course, if it can be shown that a milk diet is preferable, I am in favor of it. Musser of Philadelphia advised eighteen months in bed.

DR. C. L. WILLIAMS, Columbus: During the past year I have had four or five cases of Bright's disease. The first patient was 65 years old. I put him on the rest cure and a liquid diet and gave him strontium lactate. After doses of from 45 to 60 grains of this drug for two or three days, he had no albumin in the urine and got up and went about. He

was greatly improved for several months by this treatment, but through carelessness in his diet, he developed uremia and died. I used strontium lactate in all these cases with good results.

DR. R. H. STOVALL, Macon: I wish to call attention to the need of care in the use of mercury in these kidney cases.

The Criminal Insane

DR. E. M. GREEN, Milledgeville: A hospital for the insane should not be burdened with a number of criminals. Of forty-six criminal persons who were admitted to the state sanatorium since January, 1910, seven were not insane. The study of these cases suggests the possibility of predicating the class of crime which sufferers from certain psychoses are liable to commit.

DISCUSSION

DR. E. BATES BLOCK, Atlanta: The theory of insanity is too often used to obtain the release of some person accused of crime. It is a mistaken idea that the criminal insane should not be punished. People who are so insane that they want to kill others ought to be put in a place where they cannot do so, and yet not into ordinary asylums. We should have in every state a criminal insane asylum where the criminal insane would have to serve out their sentence the same as they would in a penitentiary, if they were not insane.

DR. J. W. MORLEY, Milledgeville: The confinement of the criminal insane in hospitals for the insane, when no other provision is made for them, is wrong. They are a discordant element. We cannot control them as we do the other insane persons. Ninety per cent. of the criminal insane really know that they have committed a crime and are more or less amenable in the sight of the law. Then there are those who come to the asylum to pass over a period of time until the feeling against them in the community dies out. These are often not insane but have put in a plea of insanity to escape the punishment of some crime by the law. While nearly all criminals are defective, we cannot accept that as a reason for sending them to the state sanatorium.

Treatment of Typhoid Hemorrhage

DR. THOMAS D. COLEMAN, Augusta: In typhoid hemorrhage a hypodermic of morphin is usually indicated. Attention should be directed to quieting peristalsis by withholding food and administering drugs which, in passing down the intestinal tract, tend to keep down fermentation and constrict bleeding vessels. After the danger of recurrence is passed, the ordinary typhoid diet may be resumed. I have used various preparations of the adrenals with satisfactory effect in constricting the blood-vessels. I have not been so successful with the use of gelatin and calcium chlorid alone in increasing the coagulability of the blood.

DISCUSSION

DR. L. C. ALLEN, Hoschton: In a number of cases I have had excellent results from the use of calcium chlorid in 10-grain doses every three hours.

DR. CLAUDE A. SMITH, Atlanta: Nothing has served me so well in the treatment of typhoid hemorrhage as the use of hypodermic injections of morphin and morphoid tincture of iodin, combined with ergot. It is of the utmost importance that we obviate every condition that has a tendency to irritate the bowels.

Bacterial Vaccines in Acute and Chronic Affections

DR. LEWIS M. GAINS, Augusta: Judging from the experience which I have had with bacterial vaccines, I believe that the physician who does not use them in acute and chronic affections is not doing justice to either the patient or himself. Acute infections respond more readily to vaccines than do chronic, and surface infections than those in which the infecting agent has penetrated into the depths of the tissue. I have treated successfully with stock vaccines cases of erysipelas, common colds, typhoid and scarlet fever. I have had no trouble in regard to reactions following the administration of the vaccines. It is my firm belief that in vaccine therapy we have one of the strongest weapons against acute and chronic infections.

DISCUSSION

DR. C. W. GOULD, Atlanta: With regard to the use of streptococcus vaccines in erysipelas, I think that you could get even better results with the streptococcus serum. I know of at least two cases of erysipelas in which the patients did not recover after treatment with streptococcus vaccines, but who were cured by the streptococcus serum. I have given typhoid vaccines as a prophylactic measure for a fever of 102 F.

DR. E. G. BALLENGER, Atlanta: The polyvalent vaccine is of prime importance in gonorrheal conditions. The troublesome feature of gonorrhea is secondary infection. If we give the mixed vaccines during the acute condition, we are less likely to have troublesome mild chronic infection later.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Eighth Annual Meeting, held at Washington, D. C., May 6-8, 1913

The President, DR. HENRY C. COE, New York, in the Chair

Officers Elected

The following officers were elected for the ensuing year: president, Dr. J. Whitridge Williams, Baltimore; vice-presidents, Dr. Thomas J. Watkins, Chicago, and Dr. Howard C. Taylor, New York; secretary, Dr. Leroy Broun, New York (reelected); treasurer, Dr. J. Wesley Bovee, Washington, D. C. Boston was selected as the place of the next annual meeting, in 1914.

Uterine Inertia; Its Treatment

DR. GEORGE TUCKER HARRISON, Charlottesville, Va.: When the uterine muscle shows feebleness in the beginning of labor and during dilatation, this condition of atony is called primary uterine inertia. The cause may be either anatomic changes in the uterine muscle or disturbed innervation. Secondary inertia is a condition of exhaustion which comes on during the period of expulsion from various causes. Before rupture of the membranes in primary inertia there is no indication for active intervention. After rupture, if there is danger to life of the child from the discharge of liquor amnii, or the mother's life is imperiled from danger of septic infection, dilatation should be brought about by the metreurynter (rubber bag), and version followed by extraction. In secondary inertia, a too-protracted labor is dangerous to the mother and child, and active intervention is indicated; if the head is well down in the pelvis and resting on the perineum, application of the forceps is indicated. It has recently been proposed to perform cesarean section in certain cases of uterine inertia, especially in the interests of the mother. The obstetric resources at our command are amply adequate, and there is no indication for such operative procedure in inertia *per se*. In primary inertia, a combination of morphin, atropin and strychnin often has an excellent effect when given hypodermically. After dilatation pituitary extract has found favor with some obstetricians. The exact field of application awaits further investigation.

Pituitary Extract in Uterine Inertia

DR. J. CLIFTON EDGAR, New York: I wish to report seventy cases, hospital and private. They include, in the first and second stages of labor, thirty-nine cases; immediately after the third stage, nineteen cases; in cesarean section, six cases, and for the induction of abortion, six cases. Ampules or vaporoles of the drug should alone be employed, as in my experience, constant results failed when the pituitary extract in bulk solution was used. For decided action, 0.4 gm. of the drug is usually called for, although in ordinary cases, with little obstruction, half that dose is sufficient. The effect lasts thirty minutes, and repetition of the dose is often called for. Intramuscular injection is usually satisfactory; causing no local reaction or pain. Further, no toxic symptoms were observed from the use of the drug even in maximum doses. Pituitary extract may be combined with ergot when the action of the

former fails, and with heart stimulants in shock cases, without compromising the actions of these drugs. Pituitary extract has no place in normal labor, the administration should be confined to instances of primary and secondary inertia, to postpartum hemorrhage and cesarean section, in the last as a substitute for ergot.

The drug produces strong intermittent uterine contractions, often prolonged for several minutes. We have never observed true continuous tetanic uterine contractions (tetanus uteri). Although theoretically the uterine contractions are intermittent, practically in the face of resistance, the contractions approach to the continuous in character and clinically must be so reckoned with. Full and even small doses of the drug in the first stage of labor have caused fatal compression of the fetus, premature separation of the placenta, and deep rupture of the cervix. In the first stage or when some obstruction exists in the second stage, I give small tentative doses of pituitary extract, not with complete delivery by means of the drug in view, but to bring the head within easy reach of a simple forceps operation. Seven of my thirty-nine patients were thus treated. Pituitary extract acted promptly and efficiently in most of my thirty-nine cases of inertia in the second and first stages. Its action was more positive in multiparas than in primiparas; it acted better at full term than in premature cases; also better in the second than first stage of labor, and when administered shortly after the spontaneous artificial rupture of the membranes.

In the eighteen cases in which the drug was used immediately after the third stage for post-partum hemorrhage due to inertia, the results were disappointing—so much so that I consider its action here most unreliable and not so positive as the ergot preparations.

In the eighteen post-partum cases there was no effect from the drug in two cases, it was necessary to use ergot in two instances, hot acetic acid douche in two more, and to pack the uterus in seven cases; only in the remaining six cases was good uterine contraction observed. In cesarean section no advantage was observed in pituitary extract over ergot, aside from the observation that the former acted more promptly and hence need not be administered so early in the operation. In induction of labor the drug failed to initiate contractions, but apparently initiated them after the use of gauze, the bougie or hydrostatic bag for inducing labor. I believe that the drug strengthened already existing contractions not yet apparent to patient or physician. For primary inertia in abortion cases, the results with the drug were disappointing. For atony of the bowel and bladder and as a galactagogue the results were negative. The dangers to mother and child in the indiscriminate administration of this drug for primary or secondary inertia of the first or second stages of labor must be reckoned with. Only a few of the thirty-nine cases of inertia were in the first stage of labor, and these are earlier cases. The remainder were of the second stage, or border-line cases just merging into the second stage.

I consider the use of the drug in the first stage a dangerous practice, liable to cause death or deep asphyxia of the fetus, separation of the placenta, uncalled-for laceration of the cervix and possible uterine rupture.

In the thirty-nine cases of inertia in the first and second stages, two and probably four stillbirths were due to the use of pituitary extract before full dilatation, and three instances of deep laceration of the cervix requiring suture to control the bleeding. I look on the use of pituitary extract before full dilatation or dilatability of the cervix as equivalent to the use of ergot at this time. In fact, it is probably more harmful than ergot, by reason of the more powerful contractions produced, and the uncertainty of its action. I have repeatedly observed prolonged tempestuous contractions, when the drug was given in the face of too much resistance, closely simulating tetanic contractions of the uterus (tetanus uteri). The action of the drug is most uncertain. One can never predict in a given case, either from the amount of the drug administered or from the character of inertia and the obstruction to be overcome, how powerfully the drug will act on the uterus. I have repeatedly observed both in private and in hospital practice 0.2 gm. of pituitary extract, half the usual dose commonly employed, produce such prolonged and powerful uterine contractions that uterine rupture was imminent and anesthesia was required to control the action of the drug on the uterus. In my opinion the drug should never be employed for inertia in any stage of labor, unless anesthesia is at hand for immediate use, and preparations complete for immediate operative delivery if necessary, to avoid uterine rupture. Finally, with due regard to its action and possible dangers, I consider pituitary extract a most valuable addition to our resources for the treatment of primary and secondary inertia.

Under What Conditions Should Uterine Inertia Be Treated by Artificial Delivery?

DR. EDWIN B. CRAGIN, New York: Uterine inertia is of greater importance in the second stage of labor, especially if the membranes are ruptured and the pressure of the uterus comes directly on the child, than in the first stage, yet in several cesarean sections performed during a prolonged first case the presence of meconium in the liquor amnii and the marked slowing of the fetal heart prior to the operation have convinced me of danger to the fetus from uterine inertia even during the first stage of labor. Uterine inertia associated with fetal heart-sounds indicating danger to fetal life is one of the first types of inertia indicating artificial delivery. My plea is for studied, skilled, artificial assistance in the delivery before the mother and child are exposed to these dangers.

There is one condition not usually classed as uterine inertia to which I wish to call attention. It is the long delay which sometimes intervenes between the rupture of the membranes and the uterine contractions of the first stage of labor. Patients sometimes present themselves at the hospital with a history that the membranes ruptured three, four or even five days before labor began. An unfortunate experience several years ago in which the fetal heart ceased before the labor was completed, and a study of the temperature charts of a number of these cases, convinced me that in many particulars they resemble cases of uterine inertia during actual labor; that there is fetal danger from interference with fetal circulation from prolonged pressure and that maternal morbidity is common from sapremia if not from bacteriemia. For these reasons I have made it a rule in recent years both at the Sloane Hospital and in my private practice to introduce an elastic bag into the cervix if uterine contractions have not started at the end of twenty-four hours from the time of the rupture of the membranes. The elastic bag, as a rule, not only brings on uterine contractions, but lessens the further escape of the liquor amnii and the results, both fetal and maternal, have seemed to justify the procedure.

DISCUSSION

DR. EDWARD P. DAVIS, Philadelphia: From the accumulated experience of the profession, it seems that pituitary extract comes into practical competition with strychnin, opium and ergot, and Dr. Edgar has given us a valuable hint as to the danger of the extract. We all recognize the fact that in many cases opium to the point of lessening nervous excitability and securing rest is of the greatest value in bringing about the development of the physiology of labor, and we are all aware of the frequent experience of the unexpected and rapid delivery of a multipara to whom we have given opium to secure rest, and how frequently the woman surprises herself and us most of all when we are caught napping; but certain it is that opium in the general experience of the profession is the one sedative which is a stimulant to the ganglion which controls the action of the uterus. It seems to me that the difference between strychnin and pituitary extract is that strychnin given in moderate doses is a physiologic stimulus to the ganglion supporting and maintaining uterine action, while pituitary extract is a matter of more brief and more stormy result, and hence is much more uncertain. I have not felt that I could substitute it for strychnin as a physiologic stimulant or aid in labor. The use of ergot should be carried out with great caution, and I still adhere to the belief that ergot should be given on the emptied uterus only, and that in cesarean section one may with advantage often lay aside ergot entirely. As an inducer and promoter of labor in connection with strychnin or pituitary extract, the dilating bag is of advantage over the

bougie in that it decidedly stimulates the mucous secretion of the cervix and is less apt to alter the mechanism of labor.

DR. JOHN O. POLAK, Brooklyn: No discussion of pituitary extract should go out without sounding a word of warning. I have had within the last three weeks a case of rupture of the uterus from its use. I have also seen within a month a woman who was thrown into such violent uterine contractions that anesthesia and morphin had to be used to control the spasm of the uterus; consequently from my experience, which is comparatively limited, only seventy-six cases, I have come to the conclusion that pituitary extract has little or no place in the first stage of labor, and that it is dangerous unless there is absolute knowledge of the nature of the pelvis, particularly in outlet, and in border-line contractions. Furthermore, in order to secure the best results from pituitary extract we should have a dilated or at least a dilatable cervix. It has no value in establishing uterine contraction—in emptying the uterus in cases of incomplete abortion. Another observation which I have made is that when it is used in the third stage of labor, secondary relaxation has been obtained in a sufficient number of cases to warn us that when used in the third stage it should be combined with ergot.

DR. HENRY T. BYFORD, Chicago: There is a mild form of inertia which in primiparas means a great deal, perhaps, in some cases, owing to general exhaustion from muscular exercise of the prolonged first stage, or want of rest and exhaustion of the nervous system. I have seen many cases in which there was inertia of the cervix. The patient has an irritable condition of the parts and will have if the first stage of labor is unusual in its length. At one time, when investigating the function of the membranes in labor with a view to preserving them, I was in the habit of giving opium frequently; in these cases the administration of opium will give rest, particularly as it acts in contrast to the advice so often given to women to go about and try to stimulate labor.

DR. WILLIAM E. STUDDIFORD, New York: My experience has been much the same as that of Dr. Edgar. The pituitary extract is so uncertain in its action in the first stage of labor and so apt to cause bad results in the cervix that the cervix should either be dilated fully or dilatable, which is, indeed, often the case; but when there is a positive diagnosis of no obstruction to rapid delivery, delivery can be brought about promptly. Therefore the question of diagnosis is important in the management of these cases as well as in the indications for treatment. An accurate diagnosis should be made before any line of treatment is followed out.

DR. J. CLARENCE WEBSTER, Chicago: In cases of uterine inertia associated with rigid or elongated cervix or hypertrophy of the cervix, the important measure of treatment is vaginal cesarean section, not abdominal cesarean section, unless there should be contraction of the pelvic outlet. My experience in use of pituitary extract harmonizes with that of Dr. Edgar, although I have not used it in so many cases as he has.

The Infant Pulmotor: Its Use in Asphyxia Neonatorum

DR. HENRY D. FRY, Washington, D. C.: The introduction of the infant pulmotor into obstetric practice is so recent that I have not been able collect any statistics of the value of the apparatus. Certainly, it is vastly superior for resuscitation to the ordinary methods of artificial respiration. We have had no opportunity to test it in a serious form of asphyxia, the so-called asphyxia pallida, but in the livid form it has acted promptly and resuscitated the infant in about five minutes. Efforts to resuscitate the infant should not be abandoned as long as there is any heart action.

DISCUSSION

DR. J. C. EDGAR, New York: I believe that I had the first infant Draeger pulmotor that came to this country. At first I looked on the machine with more or less skepticism, thinking that it was more of a plaything than anything else; but after using it for some time I found that there was some value in it. The inspiratory force should not be run up to 25. I think that 10 or 12 cm. of force is sufficiently high. Although I have made no necropsies to prove it, I believe that there is some likelihood of rupture of vessels when we run the inspiratory force up to more than 10 or 12 cm.

DR. JOHN O. POLAK, Brooklyn: Can the pulmotor be attached to the ordinary oxygen tank in case of emergency?

DR. FRY: We have an extra attachment so that it can be put on an ordinary oxygen tank.

Factors in the Formation of Skin Striations During Pregnancy

DR. FREDERICK J. TAUSSIG, St. Louis: Only thirteen out of sixty primiparas were free of skin striations. These occur most frequently at several points, and usually make their first appearance about the sixth or seventh month of gestation. In girls under 20 years of age, they are decidedly more pronounced and more frequently found than in older women. Obesity, particularly rapid increase in weight during pregnancy, predisposes to the formation of striae, especially those about the breast and thighs. Lack of abdominal support during pregnancy, as in those who wear no corsets, favors the formation of abdominal striae. On the other hand, the tense and inelastic skin in which such striae are found is to some extent a factor in subsequent abdominal relaxation. At any rate, abdominal muscular relaxation and abdominal skin striation go hand in hand. Perineal tears have apparently no relationship to skin striation. Finally, the persistent employment of proper skin massage will, in the great majority of cases, prevent the formation of the slightest skin striations.

The Menace of Cancer

MR. FREDERICK HOFFMAN, Statistician of the Prudential Insurance Company of America: On the basis of trustworthy official data, it is safe to estimate the annual mortality from cancer in the United States as 75,000 and in the civilized world at half a million. The cancer death-rate in the United States is increasing at the rate of 2.5 per cent. per annum, and a corresponding increase is taking place practically throughout the civilized world. The average age of death of cancer in all forms is 59 years, or 60.4 years for males and 58.2 for females, respectively. Cancer is largely a disease of adult life, and of the total mortality from cancer, 90.7 per cent. were deaths at ages of 40 and over. The male cancer death-rate in the United States, ages 25 and over, has increased 29 per cent. during the last decade, and the female cancer death-rate has increased 23 per cent. On the basis of past experience, the distribution of cancer deaths in the United States during 1913 will be about as follows: cancer of the stomach and liver, 30,105; cancer of the female generative organs, 11,235; cancer of the rectum, intestines and peritoneum, 9,608; cancer of the breast, 6,817; cancer of the mouth, tongue, etc., 2,880; cancer of the skin, 2,670, and cancers of other organs and parts 11,685.

The cancer death-rate of large American cities has increased from 37.2 per hundred thousand of population during the five years ending with 1876, to 80.5 during the five years ending with 1911. The cancer death-rate of the city of New York has increased from 37.5 per hundred thousand of population during the three years ending with 1872, to 81.4 during the five years ending with 1912. The corresponding increase in the cancer death-rate of Philadelphia during the same period has been from 41.3 to 86.3. At ages of 60 and over in Massachusetts, the mortality from cancer of the external organs for males has increased from a rate of 65.1 during the five years ending with 1905, to 92.5 during the five years ending with 1910. The corresponding increase for females aged 60 and over has been from 85.6 to 122.3.

Aside from the observed increase in the mortality from cancer, there has been an increase in the mortality from biliary calculi in the registration area of the United States from 1.5 per hundred thousand of population in 1900, to 3.0 in 1911. All the facts available for the different sections of the country and the principal cities throughout the world sustain the conclusion that the menace of cancer is much more serious at present than it has been in the past. Since, as far as known, the disease is invariably fatal unless the cancer is removed in its entirety in the very early stages of the disease by operative treatment, it is obviously of the utmost importance that the elementary facts concerning cancer should be better known and understood than they are at present.

The only hope for the patient is the early possible recognition of the symptoms of cancer, when operative treatment is a comparatively easy matter, with a practical certainty of

success. Neglect, on the other hand, is absolutely certain to result in death. The cancer problem suggests the intelligent coordination of all possible agencies for the control of what has properly been called a national scourge, and the deliberate reduction of the death-rate of what is stated to be a preventable disease when subjected to early operative treatment. There is, therefore, urgent need for a national society for the study and prevention of cancer, and it is a gratifying fact that such a society is in course of formation.

Dysmenorrhea Relieved by Nasal Treatment

DR. JOSEPH BRETTAUER, New York: An experience of two and a half years with the nasal treatment of dysmenorrhea shows that in about one-half the number of cases so treated, the final results are favorable. In some cases the benefit is temporary, requiring another course of nasal treatment. In other instances the relief is prompt and permanent after three or four caustic applications to the nasal spots during a menstrual interval. I have treated sixty-six cases.

DISCUSSION

DR. EMIL MAYER, New York: Occasionally a young woman will come to my office with intranasal difficulty. Being interested in the question of painful menstruation, I elicit from some of them that they have suffered a great deal, and by treatment of the nasal conditions I am able to benefit them, so that my own statistics are more favorable than those of Dr. Brettauer, although I must say that he put his patients through a very severe test and did not accept my conclusions until he had seen the patients themselves. As to amenorrhea, I have had several young girls who did not menstruate at all for three or four months, but after applications to the nose, menstruation became established.

DR. E. C. DUDLEY, Chicago: Should this cauterization treatment of the nose be used in all cases in which there are neither pelvic nor nasal lesions?

DR. HENRY T. BYFORD, Chicago: One of the chief objections I have to this method is the indefiniteness in regard to the kind of dysmenorrhea and the condition of the nose. As I understand, there has been no study made of the kind of dysmenorrhea to be helped. There are no lesions of the nose, except during the menstrual period, and they are usually regarded as a result, and not as a cause. When women have pain in the breasts every month, we do not treat the breasts, thinking that we shall cure any disturbance in the pelvis. There are many kinds of dysmenorrhea, one of which has not been described, namely, nervous dysmenorrhea. I am willing to concede that the treatment outlined by Dr. Brettauer will help patients who have this form of dysmenorrhea.

DR. ROBERT C. MYLES, New York: We find many cases in which the central nervous system seems to be in a state of aggravation or irritation as a result of serious local irritation in the nose, with phenomena occurring in other parts of the body; and when the irritation in the nose is relieved the other symptoms or phenomena disappear.

DR. W. GILL WYLIE, New York: After a long study of this subject I have come to the conclusion that in many of these cases the underlying cause is imperfect development of the lining membrane of the uterus. A peculiar case came under my observation not long ago. A mother brought her child to me. I asked her what the trouble was. She said that about the time of menstruation, or when it was approaching, her daughter could not appear in company, especially if there were gentlemen about, because suddenly her lips became so large and her face so red that she felt very uncomfortable and uneasy. On examination I found little or no abnormal changes in the vulva, except that the girl was not fully developed. I did not detect any gross disease, but I noticed that the secretions about the vulva became very profuse. I find that in women in whom a neurotic feeling develops or arises when the cervix uteri or the condition of the uterus is being examined, marked changes in the erectile tissue will be found.

DR. BRETTAUER: In answer to Dr. Dudley's question, I should say by all means treat the nose in the absence of any pathologic condition in the nose and in the pelvis. I would do so as an experiment, as it can do no harm.

The Conduct of Gynecologic and Obstetric Operations in the Presence of Acute Chronic Endocarditis

DR. JOHN OSBORN POLAK, Brooklyn: Pelvic conditions necessitating operation may be done after proper cardiac preparation. The cardiac symptoms, blood-pressure and the functional activity of the liver and kidneys are the only indexes of the time to operate. These patients should always be seen and treated in conjunction with a competent internist. The operation should be rapid, bloodless, and done under combined local and general anesthesia, morphin, novocain, ether and oxygen. The Trendelenburg posture should be used only until such time as the field may be isolated properly, when the patient may gently be lowered out of it. Phlebotomy should be done promptly on signs of right heart engorgement. Post-operative distention must be avoided. Morphin is the mainstay in therapeutics.

Influence of Ectopic Pregnancy on the Blood-Supply of the Uterus

DR. JOHN A. SAMPSON, Albany, N. Y.: As a result of ectopic pregnancy the uterus is enlarged, as a result mainly of hyperemia and a thickening of the endometrium. The changes in the latter are similar to those found in the decidua vera of early uterine pregnancy, and apparently are due to its arterial invasion from the terminal branches of the radial artery. The venous spaces of the endometrium are dilated, and this dilatation is most marked in the superficial portion of the compact layer and at its junction with the spongy layer. The termination of the pregnancy is followed by involution of the uterus. The first step in the involution of the endometrium is seen in the greater dilatation of the venous spaces, probably on account of regressive changes in the stroma, and apparently dependent on a diminished supply of arterial blood. The arteries are less evident during involution of the uterus. The dilatation of the venous spaces is followed by the escape of venous blood in the tissues of the endometrium. If the superficial venous spaces of the compact layer give way, the blood will escape into the uterine cavity without the formation of a decidual cast. On the other hand, if the venous spaces at the junction of the compact and spongy layer give way, the extravasation of blood will occur mainly between these two layers, and the compact layer will be expelled as a decidual cast. In time the regressive changes cease and are followed by a reparative process which is apparently dependent on the restoration of the arterial supply of the endometrium. The involution following the termination of tubal pregnancy is very similar to that following uterine pregnancy, differing only in degree.

The uterine bleeding is of venous origin from the venous plexus of the endometrium due to regressive changes in the latter, apparently dependent on a diminished arterial supply. Muscular insufficiency may also contribute to this. The bleeding continues as long as the pregnancy (products of conception) interferes with the process of involution. It is probably analogous to the bleeding in subinvolution of the uterus due to an incomplete uterine abortion.

DISCUSSION

DR. HIRAM VINEBERG, New York: I should like to ask Dr. Sampson how he would explain those cases of uterine hemorrhage, so far as symptoms go, that have occurred probably before the termination of pregnancy? The first symptom may be uterine hemorrhage. Perhaps a day or two later the woman may have an abdominal cramp showing that tubal gestation has taken place.

DR. SAMPSON: In eleven cases of the series the uterus was retained when the opposite tube was examined, because the woman wished to have children. In every case I talked over the possibility of children before operating. I have followed the after-history in these eleven cases; five of the patients have not become pregnant although in two of them only a few months had elapsed since the operation. Two have borne children, two children in one case and one in the other; the patient who had one child subsequently had tubal pregnancy in the opposite side. Three have had miscarriages, although they asserted that they desired to have children. One had three miscarriages and the other two had one each. Another,

the sixth one, had tubal pregnancy in the opposite side, making two cases of repeated tubal pregnancy in the eleven cases in which at the time of operation the tube, which was the seat of a second ectopic gestation, was apparently normal, and was retained with the hope that the women would have a child subsequently. I have encountered two other cases of repeated ectopic pregnancy in which the first operation was done by another operator, so that I did not know the condition of the tube at that time. I am perfectly willing to preserve the tube and the possibility of future conception in every patient who desires to have children. On the other hand, if we find that the opposite tube is diseased, and especially if these women are fairly well advanced in years, that is, from 35 to 40, and have had their share of children, I think that we should in every way make these patients just as well as we possibly can for the rest of their lives, and save them all future trouble. I can see little use in leaving behind a uterus which may have been the seat of inflammatory trouble or adhesions about it as the result of operation if it is only going to cause trouble.

In regard to bleeding without pain, all but one of these patients gave a history of uterine bleeding at some time during the illness. In one case the bleeding preceded the pain for three or four weeks, and I cannot account for it unless it indicated that the termination of pregnancy had begun, and the bleeding between the gestation sac and the wall of the tube was not sufficient to give rise to any serious symptoms. In nearly every instance one ovary was preserved.

The Relation Between the Blood-Pressure and the Prognosis in Abdominal Operations

DR. GEORGE W. CRILE, Cleveland: The relation between the blood-pressure and the prognosis in abdominal operation is based on two extremes, namely, an extremely low blood-pressure and an extremely high blood-pressure. Provided the heart is normal, we can now control the low-pressure phase by transfusion of blood, by mechanical means or by saline infusion. The high blood-pressure is far more difficult to control because it is difficult to control the factors that produce this condition. If there is cardiovascular disease due to infection or to lues, nitroglycerin may exert little control, although there is a type of cardiovascular disease that is controlled by nitroglycerin. It is not wise to reduce the blood-pressure by bleeding, and aside from nitroglycerin and hygienic measures, there are no other remedies. Therefore, as a matter of fact, the high blood-pressure is likely to be a more dangerous factor than is low blood-pressure. Whether the blood-pressure be abnormally high or abnormally low the patient is more apt to have complications such as thrombosis, emboli, pneumonia, nephritis and bronchitis; indeed, the abnormal pressure plays into the hands of the usual dangers and complications of abdominal operations. If operation be so performed that the nervous system will remain uninjured and the blood-pressure unaltered, then the maximum degree of safety would be reached. This I have found can be done on the principle of anoci-association.

Studies in Blood-Pressure Before, During and After Operations Under Local and General Anesthesia

DR. JOSEPH C. BLOODGOOD, Baltimore: Even to-day, with better anesthesia and technic, we have a mortality, not from appendectomy or other simple operations, but from the graver operations such as resection of the stomach or colon and the more extensive operations for cancer or myoma of the uterus. At necropsy no infection of the wound, no break in the technic of the intestinal suture and no hemorrhage from the pelvic operation will be found, but still the patient dies. These patients die, as a rule, within forty-eight hours or three days with a gradual lowering of blood-pressure, a gradually increasing pulse and little or no fever, or they die of complications which in the healthy person are not serious. Patients die from anuria or complications of the kidney, heart and stomach, such as dilatation. This mortality has no relation to infection or faults in technic in the sense of hemorrhages, faulty suture of intestine leading to peritonitis, or incorrectness which will produce intestinal obstruction, but in the sense of death and shock or death from complications that are due to the shock of the operation. These complications are chiefly dilatation of the heart or stomach, and faulty kidney function.

In the last four or five years I have attempted to follow Dr. Crile's technic, and the most practical thing I can say to you is to do likewise in every case. My experience of three years shows that to develop the technic of anesthesia and operation and to give patients who are handicapped with an extraordinary operation the best opportunities for recovery, you must practice this newer technic in every case until you have it fully developed.

The Conduct of Gynecologic Operations and of Pregnancy and Labor in Acute and Chronic Affections of the Heart

DR. J. CLARENCE WEBSTER, Chicago: Operations should be avoided in active or recent valvular diseases, dilatation or myocardial degeneration, except in conditions of extreme emergency. General anesthesia may greatly increase the risk by causing coughing, straining, vomiting and respiratory embarrassment. Slow administration with free admission of air or oxygen is necessary. Local anesthesia is of importance in these cases. In slight or well-compensated affections, regular methods of anesthesia should be employed. Women with heart disease should not become pregnant. If pregnancy occurs it is on the side of safety to advise early abortion, especially if there be recent acute disease of any variety, old or mitral disease or old lesion with failure in compensation. If the condition of a patient in labor is good, all strain and excitement should be avoided during the first stage, as in normal cases. It is advisable to avoid straining in the second stage by artificial delivery, forceps or turning under anesthesia. In the third stage it is best to separate the placenta manually, allowing some loss of blood. A woman at term with failure in compensation or embarrassed circulation probably has the best chance if delivered by vaginal or abdominal cesarean section.

Treatment of Puerperal Thrombophlebitis

DR. PALMER FINDLEY, Omaha: The Trendelenburg operation is surgically correct in theory, but as a practical proposition it is a questionable procedure. The difficulties involved in the making of an accurate diagnosis before opening the abdomen are as yet insurmountable; furthermore, it is not possible to judge with accuracy the extent of the infection within the veins or elsewhere after the abdomen is open. We cannot rely on the sense of touch to locate with certainty the limits of a thrombus, nor can we judge with certainty the presence or absence of pus within the veins. Failure to find bacteria in the general circulation gives no absolute assurance of the localized character of the infection, nor can a physical examination of the lungs and other viscera exclude the possible presence of metastatic foci. It is in direct violence to our rules of practice to traumatize tissues in the immediate neighborhood of a virulent infection. In reviewing the reports of cases I have been seriously impressed with the boldness with which some operators violate this time-honored principle of surgery. If the infected veins are not dissected out have we not locked the thief in the stable when we do no more than ligate above the zone of the infection, and if we do dissect out the infected veins do we not incur serious hazards in the way of disseminating the infection? Furthermore, the risk of dislodging a thrombus in exploring the pelvic veins must be reckoned with. It is a physical impossibility to ligate all the veins leading from the genital organs, and unless all channels are blocked there can be no assurance of checkmating the infection. Among the ardent supporters of the operation are those who would ligate the lower end of the vena cava and both spermatic veins, maintaining that the collateral circulation can be depended on to reestablish the return circulation. Is this not an argument in favor of the contention that the venous channels leading from the infected uterus cannot be wholly controlled by ligatures? The physical resistance in all cases of puerperal infection is far below par, a fact which makes us cautious in adding further to the burdens of these patients. We may well rob them of the small amount of resistance which they possess. Little dependence can be placed on serums and vaccines in these cases. Whatever may be our views on the question of ligation of veins or on the administration of serums and vaccines, we are all agreed that the body resistance must be supported by fresh air and nourishing food.

What Are the Best Methods of Educating American Women Concerning Cancer?

DR. FREDERICK J. TAUSSIG, St. Louis: It is almost impossible to have printed in a lay periodical intended for general distribution any article on so distasteful a subject as cancer of the uterus. The only way it can be done is to incorporate it in special paragraphs in a general article on cancer, referring to uterine cancer in such words as not to give offense. In spite of the wide circulation thus obtained through some of our women's magazines, I do not specially favor this method as its lack of directness tends to diminish its effectiveness. I would suggest an occasional article in the journals of nursing, besides the distribution of special leaflets giving concise information as to early symptoms. It is best for the doctor, the nurse or social workers to give the leaflets in person to the laity. Leaflets that supply the necessary information are more apt to be read if presented personally than they are if sent by mail. In my opinion, much can also be accomplished in the distribution of literature and pamphlets through the agency of women's clubs. There is a directness in knowledge acquired by word of mouth that ordinarily makes it better retained. Hence I believe that much can be accomplished by lectures and personal conversation that mere printed matter fails to bring about. The lectures may be given either directly to the laity, before women's clubs or social settlement organizations, or they may be given before groups of persons who would most frequently be called on for advice, such as nurses, midwives, teachers, social workers, ministers or druggists. I would recommend that special stress be laid on the early symptoms of breast and uterine cancer in the curriculum of all nurses' training-schools and all colleges of midwifery.

Report of the Committee on Cancer

This committee, consisting of Drs. Howard C. Taylor, Frederick J. Taussig and Leroy Broun, reported that to accomplish these ends they are convinced that little can be done of lasting value excepting through an organized body, the sole purpose of which would be to conduct the needed campaign of education, of scientific assistance and the collection of data. They further believe that such a society should be of national scope, embracing all interested societies and organizations together with lay people throughout America. The work of this society should be carried on by a competent paid executive secretary and his office corps under the guidance of a central committee of surgeons to be appointed by its board of directors. The need of such an organization and the possible good to be accomplished through its labors was presented to certain public-spirited women of New York. Through their efforts and the hearty cooperation of the members of the American Gynecological Society, together with prominent surgeons and lay people, a meeting was held in New York. At this meeting the present needs and status of the cancer problem was presented in full before them.

At a later meeting of a committee on organization consisting of laymen appointed by this body, the sum of $5,000 was guaranteed toward the expense of such a society for the first year. The committee was authorized not only to make a statement to the American Gynecological Society of this guarantee, but also to present the following resolution:

Resolved, That we request the American Gynecological Society to present the matter to each of the branches of the said congress interested in the subject and ask each of such branches to appoint a committee of two or more members to cooperate with us in forming a national organization for educational and publicity work in the recognition and treatment of cancer, and that we meet with such committees as soon as may be after the meeting of the said Congress of Physicians and Surgeons to be held during the week beginning May 4, 1913.

The committee recommended the endorsement and the enthusiastic cooperation of the society in the formation of such a national body. The committee further recommended that the American Gynecological Society appoint committees of two each to present this resolution to such component societies of the congress as they may deem interested in this matter, with a request for their cooperation.

The resolution was adopted and the committee was appointed

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

May, CXLV, No. 5, pp. 625-780

1 *Nephritic Hypertension: Clinical and Experimental Studies. T. C. Janeway, New York.
2 Circulation in Arm of Man. A. W. Hewlett, Ann Arbor, Mich.
3 *Instance of Premature Beats Arising in Auriculoventricular Bundle of a Young Child. T. Lewis, London, England, and H. W. Allen, San Francisco.
4 Problem of Alien Insane. S. L. Dawes, Albany, N. Y.
5 *Combined Tuberculosis and Carcinoma of Stomach; Report of Case in which Partial Gastrectomy Was Performed. H. H. M. Lyle, New York.
6 Control of Rabies. H. Albert, Iowa City, Iowa.
7 *Metabolism in Pellagra. V. C. Myers and M. S. Fine, New York.
8 Acute Suppurative Lymphadenitis, Abdominal, Due to Diplostreptococcus: Autopsy. O. W. H. Mitchell, Columbia, Mo.
9 Occupational Brass Poisoning: Brass Founder's Ague. E. R. Hayhurst, Chicago.

1. **Nephritic Hypertension.**—The symptom of hypertension in renal disease, Janeway says, can arise in three ways: 1. Hypertension may arise through purely quantitative reduction of kidney substance below the factor of safety. It is difficult to conceive of this as other than a vascular hypertonus due to retained poisons of some kind. Its clinical paradigm is the hypertension accompanying bilateral ureter obstruction or the unfortunate surgical removal of the only functionating kidney. Possibly it is one factor which helps to produce hypertension in the contracted kidney.

2. Hypertension may arise in connection with the unknown intoxication which causes disturbances of the central nervous system and which we call uremia. This intoxication is not one of retention, in a strict sense, though it is most commonly present in those cases of advanced nephritis which manifest marked nitrogen retention. Clinically it is associated with severe acute nephritis, sometimes at its very onset, besides the subacute and chronic inflammatory affections of the kidney.

3. Hypertension may arise in primary irritability of the vasoconstricting mechanism from unknown, probably extrarenal causes, which lead eventually to arteriolar sclerosis. In this type the disease in the kidney is the sequence, not the cause, of the generalized vascular lesion. When it progresses to a condition of extreme atrophy, resulting in the true primary contracted kidney, a renal element may be added to the existing hypertension. In some cases arteriosclerosis of the larger vessels may spread peripherally and produce a similar form of disease. In these primary vascular diseases it is probable that eventual wide-spread narrowing of the arterial stream-bed in some cases produces a permanent organic increase in peripheral resistance.

3. **Premature Auriculoventricular Beats.**—An instance of premature contractions is described by Lewis and Allen occurring in a child aged 4½ years; the point of origin of the beats was probably to be located in the main stem of the auriculoventricular bundle.

5. **Tuberculosis and Carcinoma of Stomach.**—The interesting point in this rare case, beside the association of these two supposedly antagonistic lesions, is the sequence of the lesions. From the clinical and pathologic evidence it seems probable that the original lesion of the stomach was a tuberculous ulcer of the pylorus, secondary to possible old lesion of the right apex. From this tuberculous ulcer a diffuse carcinoma developed. Partial gastrectomy with gastrojejunostomy, according to Billroth's second method was done May 5, 1907. The portion removed included two inches of the duodenum, the pylorus and the stomach to the Hartmann-Mikulicz line, with the corresponding glands. The pathologic report was: diffuse carcinoma of the stomach; tuberculosis of submucosa.

The patient made an uneventful recovery and remained well and continued steadily at work for two years and two months.

He was admitted to the tuberculosis service, with the diagnosis of pulmonary tuberculosis, and developed what was supposed to be an acute intestinal obstruction from adhesions. Under local anesthesia an exploratory laparotomy was performed. On opening the abdomen considerable blood-tinged serum escaped. The intestines were equally distended; no mechanical obstruction was found. The visceral and parietal peritoneum were studded with numerous small tubercles. The condition was paralytic, not mechanical. The distention was relieved by the formation of a left inguinal colostomy. The operation afforded only temporary relief, as the patient died two days later. Necropsy showed pulmonary tuberculosis; miliary tuberculosis of peritoneum and of the intestinal coverings; carcinoma of the stomach; parenchymatous nephritis, and fatty degeneration.

7. **Metabolism in Pellagra.**—The ability of individuals suffering from pellagra to utilize the various foodstuffs as indicated by the authors' series of fifteen experiments appears to be only slightly if at all below the normal. The elimination of mineral and nitrogenous constituents in the urine is such as would be anticipated under the dietary and physical conditions of the individuals. A lowered physiologic efficiency is indicated by the low creatinin coefficients and the elimination of small amounts of creatin in the urine. The presence of a few hyaline casts in about 45 per cent. of the cases points to some possible irritation of the kidney.

Anacidity is a condition common in pellagra, found in eight of their fourteen cases. It is generally associated with an entire absence of pepsin, or with pepsin in only very minute quantities. Individuals suffering from pellagra show a marked indicanuria, which is excessive in the cases with gastric inefficiency. Though the ethereal sulphate hardly parallels the indoxyl-potassium sulphate, the quantities eliminated are much higher where anacidity exists and they furthermore hold a higher ratio to the inorg. sulphates. The feces contain decidedly abnormal amounts of indol and skatol, especially the latter. The presence of excessive amounts of indican in the urine, associated with a high elimination of ethereal sulphates, when considered in connection with the abnormal amounts of indol and skatol in the feces, points to some unusual bacterial conditions in the intestine. From the data at hand this putrefaction would appear to take place rather high up in the intestine.

Annals of Ophthalmology, St. Louis

April, XXII, No. 2, pp. 213-435

10 Deficient Results in Experimental Findings Regarding Fluid Current of Eye. J. Kuschel, Luedenscheid, Germany.
11 Successful Proof of Intra-Ocular Fluid Current Based on Principle of Mechanical Adaptability. J. Kuschel, Luedenscheid, Germany.
12 Piece of Glass in Crystalline Lens, with Description of Eye Three Years and a Half After Accident. J. H. Claiborne, New York.
13 Early Fundus Signs of Arteriosclerosis. A. Greenwood, Boston.
14 Visual Disturbances Due to Diseases of Nasal Accessory Cavities. H. Moulton, Fort Smith, Ark.
15 Death After Cataract Operation. E. J. Bernstein, Kalamazoo, Mich.
16 Two Cases of Dermoid at Sclerocorneal Margin. B. Chance, Philadelphia.

Archives of Internal Medicine, Chicago

February, XI, No. 2, pp. 121-247

17 *Effects of Experimental Chronic Passive Congestion on Renal Function. L. G. Rowntree, R. Fitz and J. T. Geraghty, Baltimore.
18 *Experimental Study of Poison Oak. E. Von Adelung, Oakland, Cal.
19 *Experimental Eosinophilia with Extract of Animal Parasite. W. W. Herrick, New York.
20 Critical Study of Case of Myiasis Due to Eristalis. M. C. Hall, Washington, D. C., and J. T. Muir, Colorado Springs, Colo.
21 Interpretation of Normal Electrocardiogram. J. A. E. Eyster and W. J. Meek, Madison, Wis.
22 Unsaturated Fatty Acid as Neurolytic Agent. H. M. Adler, Boston.

17. **Effects of Chronic Passive Congestion on Renal Function.**—The method utilized by the authors for the production of chronic passive congestion of the kidney consisted briefly of the application of constricting bands about the renal veins or about the vena cava above the entrance of the renal veins. The bands were obtained by cutting sections approximately 1 cm. in length from ordinary gondé catheters which were sterilized by boiling for a period of two or three minutes. The functional tests used in this connection were essentially five, e. g., phenolsulphonephthalein, lactose, salt, potassium iodid and water. A brief description of these various tests, together with the technic is given.

It was found that slight experimental chronic passive congestion of the kidney is characterized by (a) a normal quantity of urine which contains a trace of albumin, intermittently a few hyaline and granular casts and occasionally a few red blood-cells; (b) the functional capacity varies but little from normal, since phthalein, salt and potassium iodid may be all normally excreted, while lactose excretion is but slightly delayed. Moderate experimental passive congestion of the kidneys is characterized by (a) a fair amount of urine containing albumin, casts and frequently red blood-cells; (b) a total excretory capacity which is apparently not markedly decreased, since the phthalein excretion is usually normal. The excretion of salt is usually somewhat decreased, that of potassium iodid variable, that of lactose invariably delayed. Marked experimental chronic congestion of the kidneys is characterized by (a) very scanty amount of urine containing a large amount of albumin, casts and red blood-cells; (b) a much reduced functional capacity, since the phthalein, salt and lactose excretions are markedly delayed, as is also frequently that of iodid. Albuminuria is almost a constant accompaniment of experimental passive congestion, casts are usually present, and red blood-cells appear if the congestion is of any considerable degree. Lactose excretion is the first to become affected by increasing grades of chronic passive congestion; then the excretion of salt and iodid, and lastly, that of phthalein.

The phthalein test gives the most reliable information concerning the degree of renal insufficiency in experimental chronic passive congestion. Marked delay in the excretion of lactose, iodid and salt has, indeed, been encountered in animals showing a normal phthalein output. These animals were, however, apparently in good general condition, while subsequent events showed that they remained in good condition. On the other hand, a marked decrease in phthalein excretion has invariably been associated with the development of clinical manifestations, indicating renal inadequacy and followed by death. The phthalein test is, therefore, the test of greatest prognostic importance in chronic passive congestion. Lactose, while of least value in revealing the degree of involvement of renal function in experimental chronic passive congestion of the kidney, is of the greatest value in detecting its existence. It is, therefore, of these tests that of greatest diagnostic, but of least prognostic value.

The excretion of potassium iodid is usually prolonged in experimental chronic passive congestion of the kidney. The time of elimination of this drug is, however, so variable that the test proves practically valueless in this connection. The excretion of sodium chlorid is usually decreased where moderate or marked experimental passive congestion is present.

Partial obstruction to venous return through the renal vein is not invariably associated with decreased urinary secretion. In an apparently normal unanesthetized or anesthetized (chlorbutanol) animal which has partial occlusion of one renal vein only, more urine is sometimes excreted from the congested kidney, while the solids are excreted in greater concentration from the normal side. Where gradual progressive obstruction to the renal vein occurs, the development of a collateral circulation is of great importance in maintaining the functional capacity of the kidney since an efficient renal function may be encountered when the venous return from the kidney is entirely collateral. On the other hand, ligation of collateral vessels, simultaneously with a moderate degree of obstruction to the renal vein, usually results in renal inefficiency and death. An excessive flow of blood through the kidney simultaneously with an obstruction to its outflow may be followed by polyuria. Mild grades of experimental

chronic passive congestion are not associated with the accumulation of incoagulable nitrogen in the blood. Varying degrees of chronic passive congestion which are unassociated with nephritis are produced by the above-described procedures.

18. **Poison Oak.**—It was found by v. Adelung that the toxic principle of rhus, while non-volatile, can poison at a distance by means of mechanical carriers. It is not destroyed by subjection for one hour to 100 C., and is carried, potent, by the smoke from burning rhus plants. The dermatitis is purely a local affection, and is not spread by the blood or lymph, or by the serum of the blebs. The sweat reaction has no relation to susceptibility. Absolute immunity in man is improbable, and experimental immunity in animals is not yet demonstrated. A permanent aqueous suspension of the alcoholic solution of the toxin can be prepared and remains toxic; this is precipitated by salt. As much as 0.025 gm. toxin given intravenously in aqueous suspension to a 2,000 gm. rabbit does not kill, nor does as much as 0.03875 gm. given to a 280 gm. guinea-pig subcutaneously.

Inasmuch as animals cannot be killed by the pure toxin, it is impossible to demonstrate antitoxic effect by the serum of animals that have received repeated doses of the toxin. The Bordet-Gengou fixation reaction failed to demonstrate the presence of antibodies in the serums of animals so treated.

The simplest prophylactic measure against rhus poisoning, the authors state, is to wash well with soap and hot water as soon after exposure as possible. The protection of the skin by anointing with cotton-seed oil before exposure, and washing this off within a few hours with soap and water, renders prophylaxis fairly certain. The following remedies have therapeutic value: hot water, ichthyol, collodion, potassium permanganate, magnesium sulphate and tincture of iodin.

19. **Experimental Eosinophilia.**—The problems toward the solution of which Herrick attempted to contribute are as follows: 1. Whether eosinophilia of the blood could be produced experimentally by the use of an extract of *Ascaris lumbricoides*. 2. Under what conditions of administration of this extract such eosinophilia might be brought about. 3. Whether or not the substance influencing the eosinophils is a protein. 4. Whether such eosinaphil increase bears any relation to specific sensitization or anaphylaxis. Throughout the work the possible relation of these questions to the clinical problem of bronchial asthma has been constantly in mind.

The results of his study showed that a notable eosinophilia of the blood can be developed by the intraperitoneal injection of an aqueous extract of *Ascaris lumbricoides*. The substance causing such eosinophil increase is a protein. Previous sensitization is necessary to the development of this eosinophilia. It is impossible to produce such eosinophilia while the animals are immune to the extract. This eosinophilia may therefore be considered evidence of previous sensitization. Herrick suggests that there is a possible association of these facts with the problem of bronchial asthma.

Arizona Medical Journal, Phoenix

April, I, No. 4, pp. 1-51

23 Operative Technic. W. Smith, Phoenix.
24 Chronic Constipation. E. C. Prentiss, El Paso, Texas.
25 Salvarsan, New Cure for Syphilis. N. D. Brayton, Phoenix.
26 *Malta Fever: Cases Occurring in Arizona. C. E. Yount and R. N. Looney, Prescott.
27 Foreign Bodies in Urethra with Report of Case. R. F. Palmer, Mesa.

26. **Malta Fever in Arizona.**—The authors report five cases of Malta fever occurring in Arizona during the past eighteen months. They believe that the Arizona goats will furnish a rich field to the scientific investigators of Malta fever. The first patient was a goat herder. In June, 1911, he had fever and malaise; could scarcely drag himself after the goats. Pain and aching in every bone, was feverish and thirsty, and drank more freely of water and fresh goat's milk, but still continued to herd the goats. During July the fever and aching were worse, so that he could not herd the goats, but got a light job as camp cook. Was chilly at times and had a profuse perspiration at nights. "Took to bed" August 4, but never remained in bed all day, was never delirious, had a good appetite and always got up for his meals. Usually chilly at night after profuse perspiration. Obstinate constipation from the first, but never noticed any bloating of bowels. This condition lasted about two months. Did not consult a physician, nearest one being fifty miles away. His friends diagnosed his disease as typhoid, but he states that he had had both typhoid and malaria, and this fever was different. During September he had no chills and sweatings, but was very weak and pale and had lost 15 pounds in weight. Had "rheumatism" in right hip, right leg, and both shoulders and constipation continued obstinate. October—no fever, chilly sensations or sweating, but "rheumatism" continued, constipation overcome by laxatives. About Feb. 4, 1912, right testicle began to swell, accompanied by slight chills and constant chilly sensations. February 22, right testicle swollen to about four times normal size and very tender to pressure. Temperature 102. Sterile needle and syringe used to drain off blood and serum from testicle. The specimen gave positive agglutination with the micrococcus melitensis. The second and third patients used goat's milk on cereals. The fourth patient used goat's milk on cereals and worked with the goats. The fifth patient drank goat's milk and assisted in herding the goats. All these patients were in some way connected with the goat-raising industry.

Arkansas Medical Society Journal, Little Rock

May, IX, No. 12, pp. 283-303

28 Early Diagnosis of Tuberculosis and Its Management Among Poor. S. E. Thompson, El Dorado.
29 Significance of Urinalysis in Pregnancy. J. C. Cunningham, Little Rock.
30 Treachery of Typhoid. C. S. Pettus, Little Rock.
31 Pneumonia. G. A. Warren, Black Rock.

Boston Medical and Surgical Journal

May 15, CLXVIII, No. 20, pp. 713-748

32 *Excretion of Formalin in Urine; Inquiry into Accuracy of Burnam's Test. G. G. Smith, Boston.
33 Serous and Suppurative Labyrinthitis; Differential Diagnosis. I. W. Voorhees, New York.
34 *Acute Angulation of Terminal Ileum as Cause of Intestinal Obstruction in Certain Cases of Acute Appendicitis. D. Cheever, Boston.
35 Use of Pituitary Extract in Surgical Shock. C. A. Hill, Pittsburgh.
36 *Artificially Dried Casein: Preliminary Investigation. H. I. Bowditch, Boston.

32. **Excretion of Formalin in Urine.**—Smith examined 213 specimens collected from fifty individuals, most of whom had normal kidneys. Positive tests were those which showed more than a mere trace of formaldehyd. One hundred and ten urines were positive. Of these 102 had a hydrogen ion concentration of 6.80 or more, that is, were truly acid. Eight had hydrogen ion concentrations of less than 7, that is, were truly alkaline. These were divided as follows: 7.10, two cases; 7.15, one case; 7.20 five cases. One hundred and three showed no formaldehyd. Of these eighty-two had hydrogen ion concentrations of 7.10 or less, that is, were alkaline. Four were neutral. Seventeen were acid, of the following hydrogen ion concentrations: 6.85, two cases; 6.70, three cases; 6.30, three cases; 6.15, one case; 5.85, two cases; 5.70, two cases; 5.50, one case.

From the work done with this drug, Smith has reached these conclusions as to dosage and output: Five grains of hexamethylenamin, although often sufficient to give a strong formaldehyd test, does not appear in the urine with enough regularity to warrant its routine use. Grains 7 is nearly always followed by good quantities of formaldehyd or hexamethylenamin lasting for from six to ten hours. Grains 10 every eight hours or grains 15 at 7 a. m. and 6 p. m. is the dose which Smith would recommend. The kidneys of chronic nephritis, to judge from a few observations, excrete hexamethylenamin much more slowly than do normal kidneys. One dose of grains 15 has given traces of formaldehyd in the urine for thirty-six hours. These urines are abnormally acid; formaldehyd has always been liberated.

In cases with persistently alkaline urine, Smith has tried to change the reaction by the use of various drugs. Sodium benzoate, grains 15 t.i.d. has had no appreciable effect; borie

acid, grains 10 t.i.d. was effectual in several cases, but some writers warn against its toxicity. Sodium acid phosphate given directly after meals in one-half to one teaspoonful doses seemed more efficient than the other two, but in one case its use had to be abandoned because of the resulting diarrhea. Among the fifty individuals whose urine Smith examined, there was only one (diverticulum of the bladder and pyonephrosis), in whose urine free formaldehyd was never detected.

Smith concludes:

1. Burnam's test for formaldehyd in urine is definitely positive when this substance is present in the strength of 1 part in 40,000 or more.
2. The urine should be examined as soon as possible after it has been voided. A negative test at one time does not prove that formaldehyd is never liberated.
3. From the evidence at hand Smith believes that formaldehyd is liberated from the hexamethylenamin by the acids of the urine, not by a specific function of the renal epithelium.
4. This process may take place in the kidney, but is continued in the bladder.
5. Litmus paper, as an indicator of the true acidity of the urine, was unreliable in about 25 per cent. of the cases examined.
6. The degree of acidity of urine, as measured in terms of its hydrogen ion concentration, showed in his cases a constant relation to its power to set free formaldehyd. The higher the acidity, the greater was this power.
7. The requisite amount of acidity, which is not great, is present in the majority of normal urines, and can be secured in almost all cases by the use of boric acid or sodium acid phosphate.
8. Smith disagrees with the statements of Burnam and L'Esperance that only 50 to 60 per cent. of individuals break up hexamethylamin. Examination of 213 specimens from fifty individuals showed that only in the urine of one case was formaldehyd never found.

34. **Intestinal Obstruction in Acute Appendicitis.**—In acute pelvic appendicitis, where the inflamed or gangrenous appendix has been torn from its bed on the lateral pelvic wall, from brim to floor, Cheever says the occurrence of the earliest symptoms of acute intestinal stasis, especially if appearing after an interval of a few days of normal convalescence, should lead to the assumption that there exists an acute angulation of the terminal ileum at the pelvic floor. After the elimination of ill-placed drains as a factor, at the earliest justifiable moment, the attack should be directed at that point by a secondary operation. If the patient's condition does not justify this, a better than forlorn hope is offered by ileostomy.

36. **Artificially Dried Casein.**—Bowditch has saved the casein curd that has previously been lost. The casein curd can be dried and made into stable, pure, soluble or insoluble powder. This powder may be used to increase the accuracy of administration of casein.

Canadian Medical Association Journal, Toronto

May, III, No. 5, pp. 355-449

37 Surgical Treatment of Pendulous Abdomen. J. McKenty, Winnipeg.
38 Salvarsan in Treatment of Syphilitic Diseases of Central Nervous System. R. G. Armour, Toronto.
39 Milk and Meat Inspection. C. E. Edgett, Montreal.
40 Liposis Pancreatica. E. J. Mullally, Montreal.
41 Primary Malignant Neoplasm of Fallopian Tube. F. B. Gurd, Montreal.

Cleveland Medical Journal

April, XII, No. 4, pp. 233-320

42 Dysmenorrhea. J. H. Carstens, Detroit.
43 *Toxic Dose of Salicylates According to Clinical Statistics. P. J. Hanzlik, Cleveland.
44 Effect of Successive Ligation of Renal Arteries on Nitrogen Balance. J. D. Pilcher, Cleveland.
45 Recent Advances in Treatment of Syphilis. H. N. Cole, Cleveland.
46 Conservative Surgical Methods in Operating for Stone in Kidney. W. E. Lower, Cleveland.
47 *Diagnosis of Cerebral Hemorrhage by Means of Lumbar Punctures. O. P. Bigelow, Cleveland.
48 Examination of Pelvic Organs in Doubtful Cases Through Vaginal Incision. H. Robb, Cleveland.
49 *Intestinal Absorption of Alcohol. P. J. Hanzlik, Cleveland.

43. **Toxic Dose of Salicylates.**—The clinical records of 400 patients extending over a period of about twelve years were examined by Hanzlik. The mean toxic doses of the different salicylates for males and females, respectively, were found to be as follows: 180 and 140 grains of the synthetic sodium salicylate; 200 and 135 grains of the "natural" sodium salicylate; 120 minims of the methyl salicylate or oil of gaultheria; 165 and 120 grains of acetysalicylic acid or aspirin; 100 and 83 grains of salicylosalicylic acid. The toxic doses of the different salicylates were found to be practically the same in various disease conditions of both sexes. In all conditions where there were three or mor cases, the toxic dose of the synthetic salicylate ranged between 150 and 220 grains for males; between 135 and 160 grains for females. Practically the same is true for the "natural" salicylate and methyl salicylate.

The therapeutic response (or clinical therapeutic result obtained after a toxic dose) in various diseased conditions does not modify the toxic dose of the synthetic salicylate. The therapeutically effective doses, just as the toxic doses, are somewhat smaller for females than for males. The therapeutic efficiency of the synthetic salicylate is greatest (82 per cent.) in acute rheumatic fever. Subacute rheumatism and other conditions are also relieved, often completely, but the percentage of complete successes is not nearly as great (41 to 53 per cent.) and the percentage of failures much higher (16 to 29 per cent.). In sciatica, no complete relief was obtained, but the majority (about 73 per cent.) of patients showed more or less relief. It was found that in males albuminuria was much more frequent (about 70 per cent.) in febrile than in afebrile conditions. This suggests strongly that the renal irritation is due to fever, rather than to the salicylate. The effect of repeated dosage in the same individual was also studied. It was found that the differences below and above the common range of 100 and 200 grains, respectively, cannot be attributed to the influence of age, sex, race and diseased conditions. The idiosyncrasy generally varies in the same person and is not influenced by previous salicylate medications. There was also no demonstrable habituation to the synthetic salicylate.

47. **Cerebral Hemorrhage.**—Bigelow found that cerebral hemorrhage can be detected by examination of the spinal fluid in perhaps 90 per cent. of cases if the examination be made within three weeks after the "stroke." For the first four days or so there is a cloudiness or bloodiness of the fluid of varying degree, depending on the amount of blood which has escaped. Then a color, due to hemoglobin, varying from light canary yellow to reddish-brown, appears and persists in some degree for about three weeks. After that time the only guide in the spinal fluid is a probable persistence for some time of a slightly elevated cell count and protein content.

49. **Intestinal Absorption of Alcohol.**—Hanzlik's present investigation deals with ethyl alcohol, i.e., ordinary grain alcohol. Definite quantities of alcohol of a known strength were injected into duplicate ligated loops of intestine of equal length (15 cm.), the absorption being allowed to continue for a given length of time under varying conditions. At the end of the given interval the loops were excised and the alcohol recovered from the contents and intestinal wall and its quantity deduced from the specific gravity. It was found that when approximately 10 per cent. alcohol is introduced into the intestinal tracts of dogs and cats in doses of 10 c.c. per kilo, there is an arrest of absorption at the end of half an hour after injection. This is independent of the percentage absorbed, which varies from 33 to 85 per cent., leaving from 15 to 67 per cent. of the alcohol unabsorbed. A comparatively slight and almost negligible absorption continues for one or two hours.

Hanzlik is convinced that the incomplete absorption of alcohol is not due to reexcretion, since the intestinal canal excretes a much smaller quantity (0 to 0.14 gm.) than that which remains in the intestine when absorption is arrested. There must, therefore, be an actual inhibition of absorption. This does not seem to be due to a strictly local action, for preliminary treatment of an intestinal loop with alcohol does not inhibit the absorption of subsequent portions of alcohol from the same loop. On the other hand, the absorption from the intestine is diminished 5 to 20 per cent. by intravenous injections of 10 per cent. alcohol. The effect, therefore,

seems to be systemic. It is not, however, due to changes in the systemic blood-pressure.

In addition the following facts were established: The absorption of alcohol differs for different individuals of the same species, but the average was practically the same in the different animals studied, i.e., cats and dogs. The same was true of phenol and sodium iodid. The extent of intestinal surface does not affect the absorption of alcohol. Phenol and iodid behaved in a similar manner. The absorption of alcohol is about the same for all divisions of the small intestines although slightly higher in the stomach and greatest in the colon. With phenol, the absorption was quantitatively identical for the stomach and intestine. In the case of the iodid the absorption was about a third less in the stomach and colon than in the small intestine. The absorption is scarcely influenced by the concentration of the alcohol, although a 10 per cent. solution of alcohol is absorbed slightly better than 5 and 50 per cent. solutions. Undiluted phenol was found to be absorbed a trifle better than a 5 per cent. solution.

With the sodium iodid, the 10 per cent. solution was absorbed best, while weaker solutions, i.e., 1, 2 and 5 per cent. solutions somewhat less. Necrotic agents, such as formaldehyd and concentrated phenol; and calcium chlorid, which diminishes the permeability of cells; and sodium fluorid, which acts as a protoplasmic poison, all diminish the absorption of alcohol. Agents which cause visible anemia tend to lessen the absorption, while those which cause visible hyperemia tend to increase it. Practically the same results were obtained with phenol and sodium iodid. After death the absorption of alcohol from the stomach and intestinal loops is comparatively good, averaging about 19.6 per cent. For phenol the post-mortem absorption averaged about 16 per cent.; for sodium iodid about 35 per cent.

Kentucky Medical Journal, Bowling Green

May 1, XI, No. 9, pp. 339-392

50 Pellagra. J. G. Owsley, Lily.
51 Symptoms and Diagnosis of Pellagra. M. W. Steele, Corbin.
52 *Pellagra as Related to Insanity. W. E. Gardner, Lakeland.
53 *Pellagra as Public Health Problem. O. P. Nuckols, Pineville.
54 *Pellagra in Eastern Kentucky. J. H. Hendren, Cary.

52. Abstracted in THE JOURNAL, Nov. 30, 1912, p. 1998.

53 and 54. Abstracted in THE JOURNAL, Nov. 23, 1912, p. 1917.

Maine Medical Association Journal, Portland

May, III, No. 10, pp. 1311-1354

55 Symptomatology and Clinical Types in General Paralysis. C. J. Hedin, West Pownal.
56 Symposium: Paresis, Etiology and Early Diagnosis. F. L. Hills, Bangor.
57 Laboratory Aids in Diagnosis of General Paralysis. H. E. Thompson, Bangor.

Medical Record, New York

May 17, LXXXIII, No. 20, pp. 875-920

58 *Certain Elementary Concepts in Education Applied to Medicine. J. G. Adami, Montreal.
59 Prevention and Cure of Cancer. P. Syms, New York.
60 Surgical Treatment of Cancer of Esophagus. W. Meyer, New York.
61 Purification of New York Harbor. G. A. Soper, New York.
62 Cancer of Uterus. R. M. Rawls, New York.

58. **Elementary Concepts in Education Applied to Medicine.**—Medical education, Adami declares, is no longer a state matter only; it is one of interstate concern. In Canada there has been established for now many years a General Medical Council for the United Kingdom. That council registers all duly qualified medical men. And here is the significant fact: that council conducts no examinations. What it does is this: from time to time it sends to the various schools a small and select committee of two or three experts, men high in our profession. That committee reports on the quality of the instruction provided at those schools; it is present at the examinations and reports on their scope and efficiency, and according to the report given, so does the council as a body approve of the school, in which case its diploma is accepted as qualifying for registration, or disapprove of the school, in which case specific reasons are given, and the representatives of the school are afforded the opportunity to present their side of the case. Finally if the recommendations of the committee are supported by the council as a body, either the school has to modify its procedure forthwith in agreement with those recommendations, or it has to cease to exist. Certain common regulations are laid down as to length of curriculum, essential subjects for preliminary and professional training and so on, to which all schools must subscribe, but the final approval rests not on quantity but on quality of the education and examination afforded.

The time, it seems to Adami, is ripe for a similar procedure in the United States, for the appointment of a Federal Medical Council, subsidized by the government at Washington, and formed of representatives from all the states, a council which should appoint well-known leaders of the profession to act as committees or assessors, to visit, report on and make recommendations regarding the efficiency and deficiencies of the individual medical schools of this continent, the expenses of such inquisitions to be met by the schools visited. The Carnegie Foundation has prepared the way, but there is needed now, Adami continues, not a private but a national institution, an institution authorized not by the profession alone, by the American Medical Association, for example, but by the nation at large, which shall act authoritatively in these matters. He would say, let each state control and direct its own educational methods, but let the federal assessors test the results and make sure that they reach the desired standard of quality. If this be asking too much at the present moment, at least the State might take action, might appoint committees of inquisition to inquire and report on the quality of the instruction afforded and the examinations of the schools within its boundaries, and might accept the graduates of those schools without the present farce of an examination which does not educe the capacity of the examinee. Education is something beyond mere instruction; that we are every whit as much interested in the quality of the secondary school education as in medical education proper; that both in secondary and medical education there must be more elasticity, more freedom allowed for the individual school to control its own development; that sameness means not perfection but intellectual death.

New Jersey Medical Society Journal, Orange

May, IX, No. 12, pp. 599-652

63 Short Spica in Treatment of Hip-Joint Disease. C. R. Keppler, New York.
64 Rest—Nature's Remedy. G. K. Dickinson, Jersey City.
65 Acne Vulgaris. C. J. Hallperin, Newark.

New York Medical Journal

May 17, XCVII, No. 20, pp. 1009-1060

66 Venereal Diseases. H. M. Biggs, New York.
67 Dispensary Facilities for Treatment of Syphilis. H. F. Swift, New York.
68 Dispensary Treatment of Gonorrhea. E. L. Keyes, New York.
69 Hospital Accommodations for Treatment of Venereal Diseases. S. S. Goldwater, New York.
70 Relationship of Syphilis to Internal Medicine. W. T. Longcope, New York.
71 Hypertrophy of Prostate. J. H. Gleason, Manchester, N. H.
72 Gastro-Intestinal Therapy. J. N. Upshur, Richmond, Va.
73 Medical Experts and Expert Medical Testimony. H. M. Friedman, New York.
74 *Surgical Aspect of Gastric Ulcer. J. C. Kennedy, New York.
75 Neosalvarsan. O. L. Suggett, St. Louis.

74. **Gastric Ulcer.**—In his series of twenty-two operations on the stomach Kennedy performed four gastrojejunostomics for duodenal ulcers with no mortality. Eight gastrojejunostomies were done for gastric ulcer with one death; in this a viscious circle was formed and the patient refused further operative treatment until it was too late to remedy the defect. There were three excisions of chronic gastric ulcers; one situated in the posterior stomach wall, perforated, and adherent to the pancreas, in which a gastrojejunostomy was not done; another on the anterior gastric wall, perforated twenty-eight hours before the operation, and the patient, being thoroughly septic and exhausted, died the second day

following the operation. The third was a somewhat similar case.

Four operations were done for advanced cancer, where a partial gastrectomy could not be done and in which a posterior gastrojejunostomy was done, with the Murphy button as a palliative measure. One of the patients died, within two weeks, of exhaustion, due largely to his starved condition. The others lived from six to twenty-four months in far greater comfort and ease than if they had been fed on morphin. The best behaved of this last group lived a little over two years, eating three meals a day, and so far as carcinoma and its symptoms went, was progressing well when he died of pneumonia.

Gastrostomy was done in one case for cardiospasm, due to malignant disease of the cardiac orifice, death following in six weeks from an attack of acute Bright's disease coupled with exhaustion. In the second case of cardiospasm due to cicatricial contraction, the esophagus was dilated so that the patient could take food with very great comfort. This patient died of pneumonia several weeks after the treatment began. In one case of cancer of the pyloric end of the stomach involving the pylorus itself, a partial gastrectomy was done. In this case, which was almost unsuitable for this operation because of adhesions present—the middle colic artery was injured—the patient survived but a few days.

Oklahoma State Medical Association Journal, Muskogee

May, V, No. 12, pp. 525-568

76 Acute Yellow Atrophy of Liver. W. E. Stewart, Norman.
77 Local Anesthesia in General Surgery. L. Watson, Oklahoma City.
78 Preventive Medicine or Conservation of Human Life. H. L. Wright, Hugo.
79 Obstetrics in Country. M. A. Warhurst, Sylvain.
80 Infective Inflammation of Hand. J. J. Dial, Muskogee.
81 Gastric Cancer. M. Smith, Oklahoma City.

West Virginia Medical Journal, Wheeling

May, VII, No. 11, pp. 361-398

82 Child Welfare. S. L. Jepson, Wheeling.
83 Diagnosis in Children. O. M. Staats, Wheeling.
84 Diagnosis of Thoracic Lymph-Node Tuberculosis During Childhood. J. C. Abbott, Piedmont.
85 Hypertrophied Tonsils and Adenoids. O. M. Brooks, Moorefield.
86 Syphilis in Children. C. O'Grady, Charleston.
87 State Board of Health and Public School Sanitation. L. S. Brock, Morgantown.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

May 3, I, No. 2731, pp. 921-976

1 *Present Evidence for and against Use of Tuberculin as Specific Cure. H. E. Shaw.
2 *Plea for Uniform Method of Treatment with Tuberculin. H. H. Thomson.
3 Prognosis in Pulmonary Tuberculosis: Results Obtained by Arneth's Method. J. B. H. Holroyd.
4 Epiglottic Suture: Its Value in Indirect Laryngoscopy. C. Horsford.
5 *Cheilotomy: Function-Restoring Operation in Crippling Traumatic Arthritis of Hip-Joint. W. S. Handley and C. P. Ball.
6 Case of Enteroliths. J. Anderson.
7 Removal of Intrathecal Tumor from Lumbar Region of Spinal Cord. J. M. Clarke and C. A. Morton.
8 *Classification of Tumors of Hypophysis. G. v. Bonin.

1. **Evidence for and against Tuberculin.**—Like all vaccine treatment, tuberculin in Shaw's opinion is certainly capable of effecting a change in the aspects of the disease. But, he says, it has never been proved experimentally that such changes are curative; the alleged curative changes can be explained on anaphylactic grounds.

2. **Uniform Method of Treatment with Tuberculin.**—It has generally been accepted that the method of treatment with tuberculin is the same at the dispensary as in the sanatorium, but this is not the case, says Thomson. In the sanatorium, patients are under constant medical supervision, and the amount of muscular and respiratory activity is regulated according to the requirements of each individual case. In the sanatorium, treatment by auto-inoculation takes the place of the preliminary course of treatment with exotoxic tuberculin at the dispensary. Excellent results are obtained in a sanatorium by a course of tuberculin containing both endotoxin and exotoxin administered when patients have ceased to react to the maximum amount of walking exercise and manual labor; in other words, when a certain degree of tolerance to exotoxin has been secured.

At the dispensary, on the other hand, the muscular and respiratory movements of the patient are not under intelligent control. The patient is liable to show sensitiveness to auto-inoculation with the exotoxin of the bacillus, hence a degree of tolerance sufficient to steady the temperature must first of all be produced by a course of treatment with exotoxic tuberculin. The method of administration and frequency of dosage are a source of no little diversity of opinion. In Thomson's experience the most efficient and permanently beneficial focal result is obtained by inoculating the patient once a week and by gradually increasing the dose without the production of any marked general or focal reaction, 99 F. being regarded as the danger zone. If the doses are rapidly increased and reaction is ignored a high degree of toxic tolerance may be obtained, but this is secured at the expense of tissue immunity, so that the last stage of the patient becomes worse than the first.

The following is the method of treatment with tuberculin which Thomson has adopted. At the dispensary: (a) A course of treatment with T. O. A. (exotoxic) until a certain degree of tolerance is produced. The following doses are given every eighth day:

0.00001 c.c., 0.00002 c.c., 0.00003 c.c., 0.00004 c.c. 0.00005 c.c., 0.000075 cc., 0.0001 c.c., 0.0002 c.c., 0.0003 c.c., 0.0004 c.c., 0.0005 c.c., 0.00075 c.c., 0.001 c.c.

(b) When the dose of 0.001 c.c. has been reached a course of treatment with new tuberculin W., both of which contain endotoxin and exotoxin of the human bacillus, is commenced in the following doses:

Immediately following the 0.001 c.c., T. O. A., 0.00005 c.c., 0.000075 c.c., 0.0001 c.c., 0.0002 c.c., 0.0003 c.c., 0.0004 c.c., 0.0004 c.c., 0.0005 c.c., 0.00075 c.c., 0.001 c.c., 0.002 c.c., 0.003 c.c., 0.004 c.c., 0.005 c.c., 0.0075 c.c., 0.01 c.c., 0.02 c.c., 0.03 c.c., 0.04 c.c., 0.05 c.c., 0.075 c.c., 0.1 c.c. This is the maximum dose, and it is repeated at gradually increasing intervals.

The above course of treatment applies to well-marked types of the disease with evidence of slight phases of recurring or persistent auto-inoculation. Thomson has not found it necessary or desirable to go above the maximum dose of 0.1 c.c of pure tuberculin.

In the sanatorium: In the sanatorium a course of treatment with exotoxic tuberculin is replaced in the majority of cases by treatment with induced auto-inoculation. The patient with an active tuberculous focus is thus led from a period of rest through the various stages of induced auto-inoculation to a full course of treatment with tuberculin containing both the endotoxin and exotoxin of the human bacillus. Part of this course will be commenced at the sanatorium, but it will usually be completed at the dispensary. Thomson recommends in the sanatorium a course of new tuberculin W. in the following doses:

0.00001 c.c., 0.00002 c.c., 0.00003 c.c., 0.00004 c.c., 0.00005 c.c., 0.000075 c.c., 0.0001 c.c., 0.0002 c.c., 0.0003 c.c., 0.0004 c.c., 0.0005 c.c., 0.00075 c.c., 0.001 c.c., 0.002 c.c., 0.003 c.c., 0.004 c.c., 0.005 c.c., 0.0075 c.c., 0.01 c.c., 0.02 c.c., 0.03 c.c., 0.04 c.c., 0.05 c.c., 0.75 c.c., 0.1 c.c. The maximum dose to be repeated at gradually increasing intervals.

5. **Cheilotomy.**—The operation employed by Handley and Ball in the treatment of chronic hypertrophic arthritis, especially if it be uniarticular and of traumatic origin, consists in opening the hip-joint and removing the cornice on the head of the femur, so far as it is accessible, by suitable bone-cutting instruments devised to work in a cramped space. On account of its technical difficulty the operation is somewhat prolonged, but in two instances cited shock has been absent and convalescence uneventful. The authors suggest the name

cheilotomy for this operation. They utter a word of warning against the indiscriminate application of the operation in unselected cases. For cases in which the constitutional or toxic element of osteoarthritis predominates, the method is obviously unsuited, and other methods of treatment, including the vaccine treatment, should always be tried. Nor should the operation be undertaken save under the best conditions, with ample assistance, with all possible aseptic precautions and with the essential preliminary of a good stereoscopic radiograph of the joint. The best and most suitable cases are probably those in which the medical and vaccine treatment has improved the patient in relation to his or her general health and in which the smaller joints (probably those most recently affected) have improved, but the one joint shows distinct osteitic changes as described.

8. **Classification of Tumors of Pituitary Body.**—A new scheme of classification based on the principle of histogenesis is given by v. Bonin.

I. Heterotopic Tumors.
  1. Tumors of the cranio-pharyngeal duct.
  2. Teratomas.
II. Homolotopic Tumors.
  1. Epithelial tumors:
    (a) From anterior lobe { Chromophile → Cubic cell adenoma; Chromophobe → Round cell adenoma; Combined → Carcinoma }
    (b) From pars intermedia
  2. Tumors developed from connective tissue:
    (a) From anterior lobe and pars intermedia { Fibroma; Sarcoma }
    (b) From posterior lobe.....Glioma
  3. Mixed tumors.....Fibro-adenoma

Clinical Journal, London

April 16, XLII, No. 2, pp. 17-32

9 Some Cervical Cysts of Congenital Origin. G. H. Edington.
10 Diagnostic Value of Sensory Changes in Diseases of Nervous System. H. Head.
11 Acquired Mental Defect. A. F. Tredgold.

April 23, No. 3, pp. 33-48

12 Contraction Ring as Cause of Dystocia. C. White.
13 Some Obscure Affections of Foot. A. H. Tubby.

April 30, No. 4, pp. 49-64

14 Vaccine Treatment of Septicemia. W. H. Wynn.
15 Diagnosis and Treatment of Scoliosis. E. Gillespie.

Edinburgh Medical Journal

May, X, No. 5, pp. 385-480

16 Causation and Treatment of Deformities Following Anterior Poliomyelitis. B. P. Campbell.
17 Absence of Certain Mitral Murmurs in Mitral Disease. W. T. Ritchie.
18 *Multiple Myeloma: Report of Three Cases. T. Shennan.
19 General Paralysis of Insane: Its Prophylaxis and Treatment. G. M. Robertson.

18. **Multiple Myeloma.**—Multiple myeloma, Shennan states, appears to be a system disease of the hematopoietic apparatus, of malignant nature; blastomatoid rather than true blastoma. He believes it is questionable whether all the different varieties of myeloma described in the literature of the subject can be clearly differentiated from each other. He suggests that possibly the apparent differences are due to the variability of one cell type, and that the apparent metastases do not result from embolism of cells of the new formation in the marrow, but are due to simultaneous transformation of foci of hematopoietic tissue present in the organs or to direct local extension. Nothing definite or trustworthy is known with regard to the etiology of the disease. Shennan advocates that the nomenclature in common use clinically should be amended. The name myeloma should be either restricted so as to indicate only the disease for which it was introduced by Rustitzky, and it should not be employed to designate all new formations in the interior of bone, including the myeloid or giant-celled sarcoma and other central sarcomas of bone, the cells of which are not derived from bone-marrow parenchyma; or, the term myeloma should be given up completely, seeing that the termination -oma suggests to many, tumor formation, and the term myelomatosis, which has been proposed, should be adopted generally in place of it, seeing that this term connotes a definite pathologic alteration, *sui generis*, of bone-marrow proper.

Journal of Hygiene, London

December, XII, pp. 397-462

20 Reports on Plague Investigations in India.
21 Attempt to Separate Antigen from Nucleoprotein of Plague Bacillus by Filtration Through Gelatin. S. Rowland.
22 *Besredka's Method of Vaccination. S. Rowland.
23 *Relation of Pseudotubercle to Plague as Evidenced by Vaccination Experiments. S. Rowland.
24 *Mechanism of Plague Immunity. S. Rowland.
25 Onset and Duration of Immunity Consequent on Inoculation of Plague Nucleoprotein. S. Rowland.
26 *Opsonic Index in Plague Vaccination. R. S. Brooks.
27 *Preparation of Antitoxic Plague Serums. A. T. MacConkey.

22. **Besredka's Method of Vaccination.**—Experiments were undertaken by Rowland to determine the toxicity of a "whole" vaccine prepared according to Besredka's method and the amount of endotoxin that could be extracted from plague bacilli before and after soaking (sensitizing) in antiserum. No difference was discoverable between the lethal dose of the organism that had been soaked (sensitized) in antiplague serum and those that had been treated simply with salt solution. A slight apparent difference was noticed in favor of organisms that had been sensitized in normal horse serum. A repetition of this experiment showed no diminution of toxicity in the case of the bacilli treated with serum. From the second experiment, it is concluded that on sensitizing the plague bacillus in an antitoxic serum no permanent neutralization of the endotoxin takes place. The control experiment in which the bacilli were treated in salt solution showed that the effect of sensitizing in either anti or normal serum is *nil* as regards the amount of nucleoprotein or the toxicity of the nucleoprotein. Rowland is therefore unable to confirm Besredka's statement that sensitized organisms yield an atoxic vaccine, for the whole organisms after sensitization are just as toxic as before and no neutralization of the endotoxin takes place as the result of the sensitizing. As the immune serum neutralized the endotoxin after extraction from the bacilli he concludes that the antitoxin cannot enter the bodies of bacilli killed by heat.

The main experiments that led to the recognition of the normal ambocceptor in the serum of normal horses were as follows: (1) 80,000,000 virulent living bacilli were added to 1 c.c. of fresh normal horse serum. The serum was kept at 37 C. No multiplication took place and at the end of twenty-four hours the serum was sterile. (2) 83,000,000 living virulent bacilli were added to 1 c.c. of the same serum as was used in the last experiment. The serum had been heated to 58 C. for one hour. Multiplication took place and followed the same curve when the numbers were plotted against time as the same number of bacilli inoculated into broth. (3) 10,000,000 living virulent bacilli were added to 1 c.c. of the same serum that had been heated. At the same time 0.04 c.c. of fresh normal rat serum was added to the tube. No multiplication took place and at the end of four hours only half a million bacilli were recognized. The growth and fate of living plague bacilli were traced in horse serum by direct microscopic observation. Specially constructed observation slides were used which, with a perfect method of dark ground illumination, permitted a record of the appearances of the living organisms and of their number.

23. **Pseudotubercle in Relation to Plague.**—Rowland summarizes his studies on this subject as follows: The plague bacillus is equally virulent for guinea-pigs and rats, but whereas it is easy by either the whole bacillus or the contained nucleoprotein soluble in saline to immunize the rat against plague it is almost impossible to immunize the guinea-pig, either by means of the bacillus or its nucleoprotein. The pseudotubercle bacillus is almost without pathogenicity for rats whereas the guinea-pig is susceptible to it. It is easy to immunize the guinea-pig against plague by means of the pseudotubercle bacillus; very difficult to immunize the rat. It was not found possible to immunize either the rat or the guinea-pig against plague by means of the nucleoprotein contained in the pseudotubercle bacillus. Whereas the nucleoprotein of the plague bacillus grown on broth agar is toxic for rats it is hardly so at all for guinea-pigs. The nucleoprotein obtained from the pseudo-tubercle bacillus is relatively

innocuous to either rats or guinea-pigs. Rowland converted the bacillus of plague which kills rats acutely into a bacillus which will hardly kill them at all and then without any of the postmortem signs of plague. On the other hand as regards guinea-pigs he has converted the acute killing bacillus into a chronic killing bacillus. The bacillus that was found in the culture of the plague bacillus in the nucleoprotein solution was indistinguishable from the typical pseudotubercle bacillus.

24. **Mechanism of Plague Immunity.**—Whatever the mechanism, says Rowland, the fact remains that the same toxin that is capable of provoking the formation of antitoxin in the horse is capable of neutralizing it in the immune serum of this animal, while when it is injected into rats it provokes an immunity to infection with the living organism, the essential features of which seem to be resident in the serum of this animal, and to be in turn capable of being neutralized by the endotoxin.

26. **Opsonic Index in Plague Vaccination.**—Brooks found that the substance which produces a rise in the opsonic index in immune plague serum is the nucleoprotein contained in the bodies of the bacilli. The washed bodies of the bacilli when used as a vaccine do not cause any increase in the opsonic index. Within limits, the larger the dose, the greater the opsonic response. A second dose of vaccine raises the index above the maximum of the first inoculation, even after the curve has fallen to its normal level. In the early stages, in rats, the opsonic response and the degree of protection aroused rise together. In human beings the maximum response is observed to be much later than in the case of laboratory rats, and the response in a series of previously vaccinated persons is somewhat greater than in a series of persons not previously vaccinated. The local and constitutional effects of nucleoprotein vaccination compare very favorably with those observed in other methods of protective inoculation.

27. **Preparation of Antitoxin Plague Serums.**—MacConkey succeeded in obtaining a plague antitoxin serum by means of injections of toxin obtained from the plague bacillus by Rowland's sulphate process. So far, however, the antitoxin value has not been high. The usual neutralizing power has been 300-400 rat M. L. D. (minimum lethal dose) per c.cm. and on only one occasion was the value of 750 M. L. D. reached. Plague serum retains its antitoxic properties for months unimpaired. Heating at 56 C. for half an hour on each of three successive days has no effect on the antitoxin. Plague antitoxin may be concentrated by the same process that is used for concentrating diphtheria antitoxin.

Journal of Obstetrics and Gynecology of British Empire, London

April, XXIII, No. 4, pp. 193-264

28 Artificial Vagina. Various Operative Procedures for Correcting Atresia Vaginae. G. B. Marshall.
29 *Pseudo-Eclampsia with Two Illustrative Cases. I. Cerebral Tumor; II. Meningitis. H. Croom.
30 *Excretion of Amylolytic Ferments in Urine During Toxemias of Pregnancy. D. Corbett.

29. **Pseudo-Eclampsia.**—Croom reports two cases which closely and minutely simulated eclampsia, but in both of which cases the feature of toxic eclampsia, namely, urinary changes, was entirely absent. In one case there was a large tumor of the left anterior parietal region, fatty and catarrhal change in the kidneys and fatty degeneration of the liver and heart. Edema of the lungs was also present. The tumor reached to within half an inch of the anterior end of the left hemisphere and was situated opposite the superior middle and inferior frontal convolutions of the convex surface of the hemisphere, and opposite those parts of the marginal and callosal convolutions (on the inner surface) which lie above the anterior half of the corpus callosum. Essentially the tumor consisted of epithelium with a supporting stroma of connective-tissue. The points of interest mentioned in this case by Croom, apart from those giving rise to symptoms simulating eclampsia, are (1) the situation of the tumor in the brain in the anterior lobe, a region of the brain which has hitherto escaped the localization of function; (2) that a tumor of this consistence and size must have occupied that situation for a long time without giving rise to any symptoms at all. There was nothing to give the slightest inkling that the brain tissue was in any way involved. Symptoms such as squinting, irregularity of the pupils, and various paralyses were entirely absent. The second case was one of tuberculous meningitis.

30. **Amylolytic Ferments.**—Based on an examination of the ferment content of the urine, Corbett divides cases of eclampsia into main groups: 1. Primarily renal type—where the toxin has some special affinity for the renal epithelium—either following the typical albuminuria of pregnancy where the kidneys have been damaged for a comparatively long period, or as a more acute condition. Here, Corbett says, one may expect low readings, together with much albumin in the urine. The diastase value for the serum may exceed that of the urine. Whether there may be a relative increase in the ferment content of the serum or urine before eclampsia supervenes is not at present known. 2. Secondarily, renal type—where the damage to the kidneys is of less importance. There may be changes in the liver and possibly in the pancreas. The liver changes are shown by the presence of bile acids and leucin in the urine. There are also other evidences of disordered metabolism, such as the excretion of acetone and diacetic acid. Here during the eclamptic period there will be a large percentage of albumin in the urine together with high diastase values for the serum and urine. In the other rarer forms in which there is no albuminuria and in which there are no recognizable changes found in the kidneys postmortem, an examination of the diastase value of the urine might yield interesting results.

Lancet, London

May 3, I, No. 4679, pp. 1217-1284

31 Birth Palsy: Subluxation of Shoulder-Joint in Infants and Children. H. A. T. Fairbank.
32 Case of Ankylostomiasis in Birmingham. R. Saundby.
33 Radium Emanation Therapy W. Engelmann.
34 Use of Tuberculin in Diagnosis and Treatment. J. F. Halls-Dally.
35 Treatment of Confirmed Cases of High Blood-Pressure. A. Mantle.
36 Protozoa-Like Structures in Blood in Case of Blackwater Fever. A. C. Coles.

Sei-I-Kwai Medical Journal, Tokyo

April, XXXII, No. 4, pp. 41-62

37 Method of Increasing Body Weight. H. Sewaki.

Annales de Gynécologie et d'Obstétrique, Paris

April, XL, No. 4, pp. 193-256

38 Specimen of Hydatidiform Mole Still in the Uterus. C. Sauvage.
39 *Cancer of Fallopian Tube. (Carcinome placentaire ou chorio-épithéliome malin de la trompe.) L. Bazy.

39. **Cancer of Fallopian Tube.**—Bazy's patient was a woman of 25 supposed to be at the seventh month of a pregnancy which had seemed normal at first but uncontrollable vomiting and cachexia had developed and the abdomen was enlarged only on one side. An operation revealed a placental carcinoma which had developed in the right tube. It was like a sponge, gorged with blood and bled at the slightest touch. The patient was unable to rally and died the next day. Bazy has found only eleven cases on record of placental cancer in a tube and none has been published before in France. These lesions throw light on the etiology of cancer, showing that there is no need for the intermediation of a parasite for the epithelium to acquire on occasion this power of anarchical growth. And there is nothing known which apparently provides the specific conditions to start this so effectually as an extra-uterine pregnancy. The only wonder is that cancer does not develop more frequently at the site of an extra-uterine pregnancy. In the eleven cases on record death followed soon after the operation in eight cases, and in three others the cancer was not found till after death. Cases of this kind confirm anew the necessity for treating extra-uterine pregnancy always as if it were already a manifestation of malignant disease, that is, by an immediate operation.

Archives Générales de Médecine, Paris

April, XCII, No. 4, pp. 293-384

40 Mechanotherapy in Acute Pleurisy. (Le traitement mécanothérapeutique de certaines formes de pleurésie aigue.) E. F. Cyriax.

41 Technic for Respiration Exercises. (L'emploi du spiromètre dans les manoeuvres de la méthode de l'exercice physiologique de respiration.) G. Rosenthal.

Archives des Maladies du Cœur, etc., Paris

May, VI, No. 5, pp. 305-368

42 Automatic Movements of the Ventricles with Fibrillation of the Auricles: Two Cases. (Deux cas d'automatie ventriculaire avec fibrillation des oreillettes.) A. Souques and D. Routier.

43 *Hemorrhagic Diseases with Purpura. (Quatre variétés de maladies hémorragipares avec purpura.) E. Lenoble.

44 Viscosity of the Blood. (Etude physio-pathologique de la viscosité sanguine.) M. Lisbonne and J. Margarot. Commenced in No. 4 and continued.

43. **Purpura of Various Origins.**—In the first case the hemorrhagic purpura accompanied kidney disease, probably tuberculous, in a girl of 16. Under calcium chlorid and arsenic the hemorrhagic tendency subsided. In the second case a boy of 12 had what was evidently chronic purpura with large ecchymoses and absence of nucleated reds. The lungs, heart, spleen and liver were apparently normal. No benefit was realized from epinephrin, strychnin arseniate, or a single injection of 10 c.c. of peptone. The third patient was a physician of 54 with a history of dysentery and malaria, who for nine years had occasional attacks of jaundice and fever. During the last six years an orthostatic purpura developed. The general health was not impaired and the tendency to purpura kept up for several weeks and then subsided. Not much influence was apparent from the calcium chlorid taken. The fourth patient was a boy of 12 and the hemorrhagic tendency was evidently due to scorbutus from the child's peculiar diet as he refused ordinary food. Study of the blood in these cases confirms anew the assumption that purpura in some cases is a true disease of the blood, characterized by the lack of clotting, changes in the hematoblasts and the normoblast myeloid reaction. In addition to this true hemorrhagic purpura, there is an incomplete form affecting exclusively the blood-plasma, as in the last case described above.

Bulletin de l'Académie de Médecine, Paris

April 22, LXXVII, No. 15, pp. 303-344

45 From the Seat of War. (Des enseignements de la guerre des Balkans.) E. Delorme. See Paris Letter, p. 1552.

46 The Menstrual and Intermenstrual Passive Congestion of Uterus and Ovaries. (Les vagues utéro-ovariennes. Les jours fatidiques de la femme. L'aspect protéiforme des lésions génitales.) Dastre and Stapfer.

Journal de Médecine de Bordeaux

April 20, XLIII, No. 16, pp. 243-256

47 Pathogenesis of Hemolytic Jaundice. (Ictères acholuriques.) E. Leuret.

April 27, No. 17, pp. 257-272

48 The Physician and Infant Welfare Work. (Le rôle de l'accoucheur dans la lutte contre la mortalité infantile.) Chambrelent.

49 Teeth at Birth. (Sur 3 cas de dents à la naissance.) P. Balard and C. Commes.

Lyon Médical, Lyons

April 13, XLV, No. 15, pp. 777-824

50 Typhoid Spondylitis in Woman of 60; Recovery. M. Favre and L. Bovier.

51 Extraction of Pin Embedded in Bronchus. (Cas d'épingle enclavée dans la bifurcation bronchique du lobe inférieur droit. Extraction par bronchoscopie inférieure. Guérison.) Sargnon and Vignard.

April 20, No. 16, pp. 825-880

52 Tumor in Cerebellopontine Angle; Two Cases. E. Pallasse.

53 Radioscopy of Normal Stomach in Right Decubitus. A. J. de Beaujeu.

April 27, No. 17, pp. 881-944

54 Case of Total Aphasia. J. Froment and O. Monod.

55 *Advantages of Tincture of Iodin in Ophthalmology. Jacqueau.

55. **The Use of Iodin for the Eyes.**—Jacqueau finds that tincture of iodin is as invaluable an antiseptic in ophthalmology as in genuine surgery. There is no risk involved as the tissues of the eye bear it perfectly. One or two drops of cocain should be instilled beforehand to avoid pain, and the iodin applied directly to the seat of injury by means of a cotton pledget. It is particularly valuable in affections of the lids, in corneal ulcers and for preoperative and postoperative work on the eyeball. Many cases of injuries which are ordinarily sent to the specialist could be successfully treated by the general practitioner by the application of tincture of iodin. He has thus used it in thirty-seven cataract operations among others.

Presse Médicale, Paris

April 16, XXI, No. 31, pp. 305-312

56 The Cerebrospinal Fluid in Syphilis. (Le liquide céphalo-rachidien dans la syphilis et la parasyphilis nerveuses.) H. Roger.

April 19, No. 32, pp. 313-324

57 Diatheses. (Le lymphatisme: Diathèse d'anaphylaxie-immunité.) J. Galup.

April 23, No. 33, pp. 325-336

58 Total Paralysis of the Muscles of the Leg; Deformity from Gravity. C. Ducroquet.

59 Improved Technic for Local Anesthesia for Extraction of Teeth. (L'eau oxygénée associée à la cocaine ou la novocaine—methode de Marmouget—pour l'extraction des dents.) G. Mahé and F. Vanel.

April 26, No. 34, pp. 337-348

60 Evacuation of Submaxillary Abscess Through the Mouth. (L'ouverture buccale des abcès sous-maxillaires d'origine ganglionnaire.) H. Morestin.

61 *Permanent Weakness of the Pulse. (Syndrome hyposphyxique et insuffisance pluriglandulaire.) A. Martinet.

62 Revival of Arrested Heart Action. (La reviviscence du coeur.) L. Lagane.

63 Advantages of Tape Instead of Cord for Tying off the Pylorus. (Exclusion pylorique par ruban et non par lacet.) G. Parlavecchio.

61. **Weakness of the Pulse.**—Martinet has been studying hundreds of patients over periods of months and years to determine the connection between the viscosity of the blood and the blood-pressure. This has shown that with normal cardiovascular conditions the blood-pressure parallels the viscosity, that is, the individual has the blood-pressure of his viscosity so long as the cardiovascular apparatus is normal. When the viscosity is normal or below, if there is renal arteriosclerosis, for example, the blood-pressure will be high. On the other hand, if the viscosity is high while the blood-pressure is normal or low, the pulse will be weak. This hyposphyxia syndrome, as he calls the persisting weakness of the pulse, is characterized by a tendency to cold hands and feet, congestion in the liver, varices and various subjective cardiovascular disturbances. Closer study of forty-eight patients in this class revealed a number of symptoms suggesting insufficiency of certain of the ductless glands. He is inclined to regard the weakness of the pulse as the primary disturbance; the feeble cardiac impulse and the abnormally high viscosity of the blood impede the blood-supply and hence interfere with the nourishment of the glands, thus setting up a vicious circle. He remarks that this conception of a constitutional inherited, postinfectious or functional hyposphyxia plus pluriglandular insufficiency opens a new outlook for therapeutics.

Revue de Médecine, Paris

April, XXXIII, No. 4, pp. 251-352

64 *Post-Apoplectic Amnesia. (Cas d'amnésie de fixation post-apoplectique. Autopsie.) H. Mabille and A. Pitres.

65 Unreliability of Alleged Test for Differentiating Cortical and Subcortical Motor Aphasia. (L'épreuve de Proust-Lichtheim-Dejerine.) Monod.

66 *Associated Pneumococcus Infection. (Pneumococcies associées.) M. Lafforgue.

67 Paralysis of the Bladder and Sudden Death in Pneumonia; Three Cases. Revillet.

64. **Postapoplectic Amnesia.**—A syphilitic, aged 34, had an apoplectic attack but after a few months he recovered almost completely both his power of motion and his mental faculties. While he was capable of recalling perfectly the events of his past life and of understanding and appreciating his present surroundings, he was absolutely unable to fix any new memories. After twenty years in the asylum he still always thought

he had entered it the same day and had no recollection of his daily life there. Death occurred twenty-three years after admission and autopsy showed two symmetrical areas of softening, one in each hemisphere in the midst of the white substance which forms the center of the prefrontal lobes. The prefrontal lobes being cut off from their anatomic connection with the occipital and sphenoidal lobes, impressions could not be fixed as memories though they could be clearly perceived. This is in accord with the experimental work done on the prefrontal lobes of monkeys.

66. **Associated Pneumococcus Infection.**—Lafforgue reviews the literature on pneumococcus infection secondary to other diseases, such as Bright's disease, cirrhosis of the liver, nephritic pericarditis and peritonitis, typhoid fever and tuberculosis. He describes from his own practice three cases of malaria with sudden attacks of pneumonia, in all of which pneumococci were demonstrated by blood-culture. Malaria seems to favor the development of a latent pneumococcus infection, either by the decreased phagocytic power of the leukocytes or on account of the favorable culture medium furnished by the hemoglobinemia. In malarial countries, pneumococcus infection should suggest examination for and treatment of malaria.

Archiv für Gynaekologie, Berlin

XCIX, No. 2, pp. 225-453. Last indexed March 15, 1913, p. 868

68 Ductless Gland in Gravid Uterus. (Untersuchungen über die sogen. Glande endocrine myométriale.) L. Fraenkel.
69 Innervation of the Uterus. (Die Nerven der Gebärmutter.) J. Hoogkamer.
70 Serology of Pregnancy Pyelitis; Eight Cases. (Serologisches und klinisches über Schwangerschaftspyelitis.) W. Weibel.
71 Changes in Adrenals in Pregnancy and after Castration. (Veränderungen der Nebenniere bei Schwangerschaft und nach Kastration.) W. Kolde.
72 Bacteriologic Control of Asepsis in Gynecologic Laparotomies. W. Sigwart.
73 *Frank's Technic for Subcutaneous Symphysiotomy. E. Kehrer.
74 Multiple Primary Carcinoma of Female Genital Apparatus. H. Hauser.
75 Melanosarcomas of the Clitoris. E. Vogt.
76 *Obstetric-Gynecologic Importance of Tetany. E. Kehrer.
77 Prophylactic Treatment of Eclampsia. W. Stroganoff.

73. **Subcutaneous Symphysiotomy.**—Kehrer has applied Frank's technic in ten cases and found it remarkably simple and free from danger of injury of the bladder, vagina, urethra or other adjoining tissues with the one exception of the corpus cavernosum of the clitoris. This was injured in 60 per cent. of the cases and led to a hematoma and in 30 per cent. of the cases to thrombophlebitis in the leg. The maternal mortality in the 118 cases on record has been only 0.8 per cent., in contrast to the mortality of 4.1 per cent. in the 217 recorded cases of subcutaneous pubiotomy. All the children were safely delivered in the seventy-nine women who had borne children before; the technic is only exceptionally applicable to primiparae. The great advantage, he reiterates, of subcutaneous symphysiotomy is that it permits expectant treatment to be carried to the very farthest limit. Weakness of the labor pains does not seem to be a contra-indication to the operation. Its special field is with universally contracted, shallow pelves with a true conjugate down to 6.9 or 6.8 cm. A possibility of infection already installed need not contra-indicate it, but with suspicion or certainty of infection it is wiser to prefer the extraperitoneal cesarean section. Subcutaneous symphysiotomy by Frank's technic does not interfere with the gait later. If it were not for the occasional hematoma and thrombophlebitis the method would be ideal.

76. **Tetany from the Obstetric-Gynecologic Point of View.**—Kehrer gives the details of numerous cases of tetany in or following a pregnancy or gynecologic operation, including a number from his own experience. Study of the common features and of results of experimental research confirms the causal importance of calcium in the development of tetany and the importance of the parathyroids as controlling calcium metabolism. During pregnancy the calcium is drained from the mother to form the bones of the fetus and the drain continues during lactation. In 20 cases, plus 2 from his own experience, the tetany developed first during a pregnancy, no month predominating; in 25 cases it recurred during pregnancy; in 4 it developed during the pregnancy in women who had previously had tetany; in 7 during a pregnancy after an operation for goiter, and in 2 after a long preceding goiter operation; in 3 the tetany developed during delivery; in 22 it appeared during the puerperium or lactation; in 8 it recurred at this time, and in 3 plus 1 it developed during lactation in women who had previously had tetany. Not only maternity tetany but also the tetany of osteomalacia and rachitis can be readily explained by the losses of calcium resulting from insufficiency of the parathyroids.

Januszewska, who practices in Bosnia, has reported that she has encountered 3,500 cases of osteomalacia among 20,000 patients in the course of ten years, and in 328 cases tetany was combined with the osteomalacia. Schönborn has reported a case of osteomalacia terminating after six years in fatal tetany with cachexia in a woman addicted to morphin. Hemorrhages, loss of body fluids, injury of the parathyroids by compression or an operation—anything in this line may bring on tetany, and it is very important to recognize the predisposition to it and thus be able to ward it off in time with calcium chlorid. Kehrer makes a point of examining for symptoms suggesting tetany in all pregnant and puerperal women and after gynecologic operations, examining for Chvostek's sign and, if this proves positive, inquiring in regard to paresthesias in the hands, formication, muscular weakness or stiffness, and pains in the fingers during sewing or writing. When these are found he gives calcium chlorid in large doses, in accordance, he says, with the important discoveries in this line of Halsted and Crile. He does not hesitate to give daily 5 or 6 gm. to adults and 1 gm. to new-born infants. He prescribes it as calcium chlorid, 10 parts (always adding the chemical formula, $CaCl_2$, and the warning: "Not chlorinated lime or potassium chlorate"), with syrup of peppermint or raspberry, 30 or 40 parts, and distilled water to 150 parts. He used Moser's antitetany serum in one case with apparently good results and states that he is thus the first to try serotherapy in human tetany, and also the first to treat with calcium pregnancy and puerperal tetany and tetany in the new-born. It is possible, he adds, that the parathyroids may be influenced by taking advantage of the antagonism between them and the adrenals.

Archiv für Verdauungs-Krankheiten, Berlin

XIX, No. 2, pp. 121-262

78 Mode of Action of Saline Purgatives. (Ueber die Verweildauer von Salzlösungen im Darme und die Wirkungsweise der salinischen Abführmittel.) F. Best.
79 *Acute Embolic Enteritis. C. Hart.
80 Inversion of the Viscera. (Zur Kasuistik des Situs inversus partialis abdominis.) C. Hart.
81 *Influence of Internal Treatment on Disturbance in Motor Functioning of the Stomach. (Der Einfluss der inneren Behandlung auf die Motilitätsstörungen des Magens.) S. Kemp.
82 *Extra-Anal Method of Treating Hemorrhoids. J. Maybaumm.
83 *Duodenal Ulcer. V. Plitek.
84 Technic for Endoscopy. (Einfache Methode zur Feststellung der Ursache des Versagens der elektrischen Beleuchtung eines Endoskops.) F. Ehrlich.
85 Blotting-Paper Capillary Test for Acidity in Gastric Juice. (Ueber die sogen. Kapillaranalyse vom Magensaft nach Dr. I. Holmgren.) K. Mattisson. Commenced in No. 1.

79. **Acute Embolic Enteritis.**—Hart gives an illustrated description of a case of fatal embolism in the intestines following directly on a septic sore throat in a girl nearly 7. A short bacillus was cultivated from the heart blood. This case was encountered in 1908 and there was considerable discussion whether it was not a case of variola. Quite recently he has seen a second case of the kind, confirming the previous assumption of embolic trouble in the intestines. The second patient was a robust bank clerk of 24 who died in the course of an ulcerative tonsillitis, and the findings in the intestines were similar to those in the first patient. In neither did the lymphatic system appear to be involved. In both the appendix was intact. Hart has not been able to find any similar cases on record of embolic enteritis occurring in connection with septic sore throat and accompanied by emboli in the skin.

81. **Influence of Internal Treatment on Motor Functioning of the Stomach.**—Kemp extols the remarkable advantages of the Bourget-Faber test-meal for estimation of the motor functioning of the stomach. It consists of oatmeal gruel, eight stewed prunes, 50 gm. chopped veal with a teaspoonful of huckleberry sauce and 2 slices of bread and butter. This meal is evacuated from the stomach by the end of five hours in normal conditions, and it is peculiarly adapted to reveal any disturbance in motor functioning, much more so than any of the other test-meals in vogue. He tabulates the findings in twenty-three patients with gastric ulcer, twenty with ptosis and atony, eleven with gastritis and thirty-two with simple atony. When there was a large amount of the meal still present in the stomach the patient was tested again the sixth, eighth or twelfth hour after the meal until the extreme limit for evacuation was determined. The contents pumped out of the stomach with the rinsing water are set aside in a cylindrical glass and the amount of solid sediment after a few hours can be recorded in c.c.

He found that the motor functioning improved under the usual treatment for the above conditions, the improvement being marked and paralleling the subjective improvement except in the cases of gastritis; this seems to be more resistant to treatment. In sixty of the eighty-five cases the retention thus determined on commencing treatment had entirely ceased by the end of the course of treatment. This favorable result was obtained not only in the mild forms of retention but even in a number of cases in which nearly all the prunes were found in the stomach after twelve hours. He records the cases as R-VIII or R-V or R-XII, expressing by this the number of hours when there was still a large amount of the food retained in the stomach, following these figures with (50) or (185) or (20) to express the number of c.c. of solid particles in the stomach content in the cylindrical glass. Even slight disturbances in motor functioning are revealed by this test-meal. The clinical experiences related show that even extreme retention for twelve hours may yet prove amenable to internal treatment.

82. **Extra-Anal Non-Operative Treatment of Hemorrhoids.**—Maybaumm has been applying in fifteen cases the method which Boas introduced and systematized (described in THE JOURNAL March 9, 1912, p. 742). He regards it as essential progress in the treatment of hemorrhoids, especially for patients whose condition does not permit operative measures. For solitary nodules with a long pedicle it is preferable to all other methods of treatment. He advises it as a preliminary to any operation as it may render the latter unnecessary. The patients have to stay three or four days in bed and keep quiet for another week. By the end of the second week they are free to return to business. In four cases he found it impossible to apply the technic successfully as the nodules had such a broad base.

83. **Duodenal Ulcer.**—In sixteen of seventeen cases of gastric ulcer, Plitek found that the condition was much aggravated by exercise while in four of thirteen cases of duodenal ulcer the patients felt better under exercise; in the other nine the pains increased with movement. In the gastric-ulcer cases the temperature in the rectum was above normal in five and also in three of ten duodenal ulcer cases. He gives the particulars of the thirteen cases; all the patients were great coffee drinkers. During the attacks of pain, it was relieved by lying on the back in eight cases and by a squatting position in three cases. One patient found the pain was relieved by pressing the stomach region against the edge of the table. He did a gastro-enterostomy in ten cases. The results have been excellent in all although the interval since has not been over six months in some of the cases. One patient died with symptoms of ileus after seven months, and necropsy revealed a cord-like adhesion between the gastro-enterostomy and the root of the mesentery.

Berliner klinische Wochenschrift

April 21, L, No. 16, pp. 717-764

86 Digitalis. (Digitalistherapie.) A. R. Cushney.
87 The Pulse at High Altitudes. (Wirkung des Hochgebirgsklimas auf die Pulsfrequenz.) E. Stern.
88 *The Prognosis in Valvular Disease. (Herzklappenfehler.) M. Heinrich.
89 *Disadvantages of Use of Scopolamin in Treatment of Morphin Addiction. F. H. Mueller.
90 *Tibialis Anticus Antagonistic Reflex. A. Piotrowski.
91 Accessory Passages in the Penis and Gonorrhea. (Ueber die accessorischen Gänge am Penis und ihre gonorrhoische Erkrankung.) Hübner.
92 *Temporary Sterilization by Walling Off the Ovary with the Broad Ligament. Blumberg.
93 Operative Correction of Deformity below the Knees. (Fall von operativ behandelter angeborener Missbildung der unteren Extremitäten.) S. Pelteschn.
94 Cancer Induced in Rats by Feeding with Nematodes. S. Löwenstein and J. Fibiger.

88. **The Prognosis of Valvular Disease.**—Heinrich comments on the more favorable prognosis in valvular disease which the course of time has brought. Benfey has reported five cases in which the patients lived to be 17, 20, 27, 42 and 69 years old while Cassel has reported three cases of complete recovery from mitral insufficiency in children. Gerhardt the case of a young carpenter, and Baginsky admits that valvular disease in children may completely subside. Heinrich quotes also Senator, Leyden and others who have reported cases of complete recovery from aortic disease in adults. In all these favorable cases of valvular disease in adults the patients were able to spare themselves physical efforts. He then reports the case of a woman of 54 who had aortic insufficiency left from acute articular rheumatism at 16. At the age of 24 she was demonstrated as a typical case of aortic insufficiency. At 34 she had to spend four weeks in the hospital on account of pericarditis, but during the twenty years since she has been in continued good health and working in hard domestic service. The heart shows the typical signs of insufficiency of the aortic valve, and it has thus lasted for thirty years without impairing the general health. Heinrich knows of only one instance of such long survival on record.

89. **Injury from Narcotics in Treatment of Morphin Addiction.**—Mueller protests against a recent work which advocates keeping the patients under the influence of scopolamin in curing them from morphin addiction. He insists that any narcotic is not only superfluous but often does great harm under these circumstances.

90. **The Anticus Reflex and Antagonistic Reflex.**—Piotrowski called attention to the reflex dorsal flexion and supination of the foot when the tibialis anticus is tapped as described in THE JOURNAL, Jan. 25, 1913, p. 326. Further study of this reflex has shown that with organic disease of the central nervous system it is liable to elicit also or solely an antagonistic plantar flexion of the foot or toes. He found this reflex pronounced in six of nineteen patients with organic disease of the central nervous system; twice it was accompanied by the anticus reflex. In four cases of multiple sclerosis there was plantar flexion of the foot to the right or left on tapping the tibialis anticus; also in a case of myelitis and in a case of vertebral disease. In one of the multiple sclerosis cases the disease was in its incipiency, and the antagonistic flexion was the only pathologic reflex to be elicited in the leg; this case shows that the phenomenon may be an early sign of organic trouble.

92. **Temporary Sterilization of Women.**—Blumberg has applied a technic in six cases which effectually prevents conception while at the same time normal conditions can be restored at any moment when desired. The ovary is buried in a pocket made for it by turning up over it that part of the broad ligament of the uterus between the fallopian tube and the ligament of the ovary, suturing the free edges of this ala vespertilionis to the rear of the uterus, leaving the tube free in the peritoneal cavity. As the ovary lies behind the broad ligament it is thus completely imprisoned. The ovary is freely movable in this pocket as only the edges of the broad ligament are sutured, and at any moment the sutures can be taken out and the ovary released. He has done the operation by the vaginal route to date. In his six patients thus operated on there has been no disturbance at any time since; menstruation continues the same as before the operation. The longest interval since has been two years.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 19, XLIII, No. 16, pp. 481-512

95 Hospital Experience with Typhoid During Forty-Six Years. E. H. Burckhardt.

96 Hematuria Five to Ten Days after Sterilization of Skin with Benzine. (Benzin und Toilette.) C. Roux.

Deutsches Archiv für klinische Medizin, Leipsic

CX, Nos. 3-4, pp. 189-412. Last indexed May 18, p. 1501

97 *Formation of New Blood at High Altitudes. (Höhenclima und Blutneubildung.) F. Laquer. (Blutbildung im Hochgebirge.) O. Cohnheim and O. H. Weber.

98 Tuberculosis and Calcium Metabolism. (Zur Lehre des Kalkstoffwechsels. I.) N. Voorhoeve.

99 Metabolism under Hypophysis Treatment. (Wirkung des Extraktes aus dem Infundibularteil der Glandula pituitaria unter pathologischen Verhältnissen.) A. Elfer.

100 Nutrient Enemas Containing Simple Digestion Fragments. (Ueber Nährklistiere mit Eiweissabbauprodukten und deren Einfluss auf den respiratorischen Stoffwechsel und die Wärmeproduktion.) P. Schöpp.

101 Tolerance for Galactose Introduced Directly into Portal Circulation. H. Wörner.

102 *Experimental Research on Intravenous Dosage of Diphtheria Antitoxin. (Wirksamkeit grosser Serumdosen bei der Diphtherievergiftung.) C. Schöne.

103 Intravenous Administration of Strophanthin. (Beitrag zum Ausbau der intravenösen Strophanthintherapie.) O. Thorspecken.

104 No Probable Connection Between Endemic Goiter and Radio-Activity of Drinking Water. (Beziehungen zwischen Kropfendemie und Radioaktivität.) E. Hesse.

105 High Lymphocytosis Connected with Infections. F. Marchand.

106 Addison's Disease. J. Löwy.

107 The Energometer and Sphygmobolometer. (Neue Experimente zur dynamischen Pulsdiagnostik.) T. Christen.

108 Amount of Blood Expelled from Heart at Each Beat. (Zur Frage des Herzschlagvolumens.) O. Müller and K. Vöchting.

98. Influence of Altitude on Blood Production.—Laquer made a study of his blood for some weeks at a low altitude and then during four weeks at a height of about 9,000 feet. Both the red blood count and the hemoglobin began to rise slowly during the second week and on the fifteenth day reached their maximum, the red cells having increased 15 per cent. and the hemoglobin 16 per cent. After his return to the lowland the red cells decreased suddenly and the hemoglobin gradually down to their original level. Six dogs were bled until about half the blood volume was removed and then they were taken to the 9,000-foot altitude. The restoration of the normal blood-volume required sixteen days, while six dogs kept at the lower level required for this twenty-seven days, or 70 per cent. more. He is inclined to ascribe the blood-regenerating power to the low oxygen pressure.

Cohnheim and Weber in order to determine whether there is an actual increase in blood formation at high altitudes, examined repeatedly the blood of twenty-three men who had worked for fourteen years on the Jungfrau railroad at altitudes of from 9,000 to 11,000 feet. Both red cell count and hemoglobin were decidedly increased over the normal for healthy men at lower levels. Tables are given showing their results. (See also Berlin Letter, p. 1554.)

103. Large Doses of Antitoxin in Diphtheria.—There has been much discussion as to the efficacy of large doses of antitoxin in the treatment of diphtheria, some authors maintaining not only that large doses were no more effective than moderate ones, but that they were positively harmful. Schöne concludes from a series of intravenous injections of antitoxin in guinea-pigs that very large doses have no harmful effects and that by their use many patients with severe infection can be saved that would die with smaller dosage, particularly if the antitoxin is not given early.

Deutsche medizinische Wochenschrift, Berlin

April 17, XXXIX, No. 16, pp. 729-776

109 *Puerperal Inversion of the Uterus. W. Zangemeister.

110 *Tubercle Bacilli in the Blood Stream. (Tuberkelbazillen im strömenden Blut.) E. Fränkel.

111 Action of Serum and Toxin Administered by the Rectum. G. Shibayama.

112 *Serum-Anaphylaxis. (Wiederholte Seruminjektionen und Ueberempfindlichkeit—Serumanaphylaxie.) M. Nemmser.

113 Experimental Cholesterinemia. (Die pathologischen Veränderungen innerer Organe bei experimenteller Cholesterinesterverfettung.) N. Anitschkow.

114 Diaphragm Hernia? (Hernia diaphragmatica oder einseitiger Zwerchfellhochstand?) Reuss.

115 Pectineal Hernia. (Entstehung der Hernia pectinea.) O. Harzbecker.

116 Injury from Old Novocain Solution. (Gewebsnekrose und arterielle Arrosionsblutung nach Anwendung alter Novokainlösungen zur Infiltrationsanästhesie.) v. Gaza.

117 Bacillary Fragments in Tuberculous Sputum. (Ueber "Splitter" im Sputum von Phthisikern.) A. Forbat.

118 The Fever with Mucous Colitis. (Die Febris intermittens perennis der Colitis mucosa.) M. Couto.

April 24, No. 17, pp. 777-824

119 Gangrene of the Lung. G. Treupel.

120 Improved Technic for Diagnosis of Diphtheria. (Erfahrungen mit den Tellurnährböden bei der bakteriologischen Diphtheriediagnose.) W. Schürmann and E. Hajos.

121 Research on Thorium X. (Die Thorium X-Wirkung auf das Blutzellenleben.) Arneth. Commenced in No. 16.

122 Bacillus causing Multiform Erythema. (Zur Aetiologie des Erythema exsudativum multiforme.) K. Saisawa.

123 Sources of Error in Wassermann Reaction. (Ueber "eigenlösende" Eigenschaften des Meerschweinchenserums und dadurch bedingte Fehlerquellen der Wa. R.) A. Zaloziecki and E. Kolowicz.

124 Moving Pictures of the Heart. (Die kombinierte Herzröntgenkinematographie und Elektrokardiographie.) T. and F. Grocdel.

125 "Human Aquariums." E. Holländer See Abstr. 93, p. 1037.

109. Puerperal Inversion of the Uterus.—Zangemeister comments on the extreme rarity and severity when it does occur of inversion of the uterus at childbirth. Thorn has compiled 620 cases recorded in the last twenty-two years, in connection with childbirth in 543 cases, with myoma in seventy-nine, with other tumors in four and the inversion occurred without known cause in thirteen. The great danger is from shock and hemorrhage. The shock may prove fatal without much hemorrhage, and shock may occur even during reduction. Over 4 per cent. in 374 cases died exclusively from the shock and 5.9 per cent. from the immediate hemorrhage. No case of air embolism is known, and only 2 per cent. of the women succumbed to sepsis, directly connected with the inversion. The total mortality of recent puerperal inversion is thus 15.8 per cent., but forty-six other women died from the indirect consequences, pulmonary embolism or other cause. The inversion became spontaneously reduced in 3 per cent. of the 374 cases. Treatment should aim to correct the inversion and check the hemorrhage; the latter can be readily done by imitating nature's process of compressing the pedicle by muscular spasm or a ring of engorged vessels, like a paraphimosis. An elastic band can be passed around the base of the uterus as it lies in the vagina, and thus arrest the hemorrhage by compression just tight enough to accomplish this and no more; it should be removed as soon as possible. Done in this way all hemorrhage is arrested and there is no danger of gangrene. If the inversion is not complete, the vagina should be tamponed to arrest the hemorrhage, possibly suturing the vulva as a temporary expedient. It might be advisable to make the inversion complete and then treat it as above. He gives minute directions for reduction of the inverted uterus, the patient on her back with the pelvis raised. No instrument should be used; beginning near the orifice of one tube, with the tips of the fingers, bunched, the uterus is pushed in, funnel-shaped, gradually working the fingers farther in with counter-pressure from the rest of the hand. The great obstacle is the ring of constriction at the base. All should be done under general anesthesia.

Statistics have shown the surprising fact that the outcome is far better when the patient is allowed to recover from the shock before attempting reduction. From the third to the twelfth hour after the inversion is thus the propitious time for reduction. In 158 cases in which the reduction was attempted at once it succeeded in only 76 per cent. of the cases; it failed in 24 per cent., and 23 per cent. of the patients died. When the reduction was not attempted until after from one to fourteen days, there were 40 per cent. failures and 20 per cent. deaths. On the other hand, when the reduction was not attempted until from one to twenty-four hours after the inversion it succeeded in all but 14 per cent. and there was no mortality. In the majority of cases the inversion was due to pulling on the placenta before it

had separated and while the uterus walls were relaxed, not in contraction. The inversion is much more liable to occur when the traction is straight downward, the placenta implanted on the fundus. Reduction is easier of course, the less there is to reduce, and consequently the placenta should be removed, but great care is necessary as the inverted uterus is easily injured. After separation of the placenta it is better to wait a while to allow the uterus to recuperate from the mechanical irritation. The colpeurynter is useful in the old cases but not in the recent, except possibly in place of tamponing the vagina in cases of incomplete inversion. Operative measures should be restricted to cases in which reduction has not been possible in the course of the first twelve hours.

110. **Tubercle Bacilli in the Blood-Stream.**—Fraenkel states that microscopic examination of the blood for tubercle bacilli is liable to prove misleading and that inoculation of animals is the only reliable criterion. Of the twenty-five persons he examined, only two gave positive results in the forty-two animal inoculations. One was a woman with advanced pulmonary tuberculosis, the other a man with chronic bronchitis, no tubercle bacilli in sputum or blood.

112. **No Anaphylaxis to Diphtheria Antitoxin.**—Nemmser states that no signs of anaphylaxis developed in the course of his extensive experience with preventive injection of antitoxin in four years at the St. Petersburg Hospital for Infectious Disease. He has been studying 3,000 case records of scarlet-fever patients, the rule being to make a preventive injection on reception of every scarlet-fever patient as secondary infection is so common; measles, diphtheria, erysipelas, or mumps developing in 1 per cent. of all cases. He found 1,002 records of cases in which more than two preventive doses of the serum had been injected, in some up to five. Serum exanthems developed in forty-two cases but never anything to indicate anaphylaxis as he retrospectively analyzes the cases.

Medizinische Klinik, Berlin

April 20, IX, No. 16, pp. 611-652

126 *The Diet in Diabetes. C. v. Noorden.
127 Pathology of Breast-Fed Infants. (Ernährungs- und Entwicklungsstörungen beim Brustsäugling.) Friedmann.
128 *Surgery of the Prostate. (Ein Jahr Prostatachirurgie.) M. Wilms.
129 *Urobilinogen Reaction in the Urine Early in Scarlet Fever. (Urobilinogenreaktion im Harne Scharlachkranker.) C. Schelenz.
130 *Oxyuris Appendicitis. (Vorkommen der Oxyuris vermicularis im erkrankten exstirpierten Wurmfortsatze des Erwachsenen.) Rheindorf.
131 National Parks. (Ueber Naturschutz und Naturdenkmalpflege.) W. Wangerin.

126. **The Diet in Diabetes.**—At the recent International Physiotherapy Congress von Noorden discussed the principles for modern dietetic treatment of diabetes with exact details. In conclusion he emphasized that no other chronic disease is so much under our control as diabetes, aside from the unconditionally malignant and very far advanced cases. He deplores that it so often happens that systematic treatment is not considered necessary in the early stages, and much time is wasted and the disease allowed to progress to a severe form by inadequate measures. Some rely on courses of mineral waters at spas, trusting to them to bring absolution for the dietetic sins of the home life; some waste time and money on quacks, patent medicines, and the so-called antidiabetic specialties advertised in such profusion. At best, these proprietaries are harmless drugs sold with directions for strict regulation of the diet. The proprietary medicine with its alleged miraculous powers is only the business appendix; the active factor is the regulation of the diet. The patient's physician may not have ventured to impose such stringent dietetic restrictions, but the quacks do not hesitate to insist on them, and with disastrous audacity in many cases. He reaffirms the importance of beginning an energetic individualizing dietetic treatment of diabetes in the early stages of the disease. This is the time when, according to the patient's regulation of his diet, all may yet be won and all may be lost. When this principle is universally recognized it will be appreciated that the prognosis of diabetes is much more favorable than that of any other chronic disease and we will rarely encounter it in a severe form.

128. **Prostatectomy.**—Wilms states that he has done perineal prostatectomy in forty-three cases without a fatality. He believes that in scarcely any surgical field has there been such improvement as in prostate operations in the last decade.

129. **Urobilinogen Reaction in the Urine in Scarlet Fever.**—Schelenz expatiates on the importance of the dimethylamidobenzaldehyd reaction in the urine as a very early sign of scarlet fever. He obtained a positive reaction almost constantly in the early cases. The negative findings which some have reported were probably due to the presence of formaldehyd in the urine from preceding hexamethylenamin medication. Hexamethylenamin does not always split off formaldehyd in the urine, and consequently some patients who had taken it gave a positive reaction to the test for urobilinogen, but as a rule when a patient has taken this drug the urine test is negative.

130. **Oxyuris Appendicitis.**—Rheindorf concludes from his study of thirteen cases of appendicitis in persons harboring the oxyuris that chronic discomfort in the appendix region in adults, especially sharp pains, increasing during exercise, should suggest the possibility of oxyuris infection. Even when no signs of the parasite are evident in the stool they should be given a course of treatment for the helminthiasis; it should be arrested at once if signs of acute febrile appendicitis develop. He urges examination of every appendix after removal to determine the presence of helminths.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXVI, No. 1, pp. 1-196. Last indexed April 5, p. 1115

132 *Action of Pathologic Kidney on its Mate. (Experimentelles über die Einwirkung einer lädierten Niere auf die Niere der anderen Seite.) K. Isobe.
133 *Chronic Pancreatitis. A. Schmidt.
134 Fat Embolism Outside of the Lungs and its Causes. (Die Fettembolie des grossen Blutkreislaufes und ihre Ursachen.) C. Fromberg.
135 Megacolon. (Zur Diagnostik der Hirschsprungschen Krankheit.) L. Frank.
136 White Bile. (Zur Frage der Entstehung der sog. weissen Galle bei absolutem dauernden Choledochusverschluss.) J. Bertog.
137 *Blood Count in Appendicitis. (Die heutige Bewertung der Blutuntersuchungen bei der Appendicitis bzw. freien fortschreitenden appendicitischen Peritonitis.) W. Schultze.
138 Roentgenoscopy in Diagnosis of Duodenal Disease. (Die Leistungsfähigkeit der Radiologie in der Erkennung von Duodenalerkrankungen, besprochen auf Grund von Erfahrungen an 31 operierten Fällen.) C. Müller.
139 Abscess in Omentum Sac after Necrosis of the Pancreas. A. Rittorf.
140 Surgery of Tumors in the Cerebellopontine Angle. (Kleinhirnbrückenwinkeltumoren.) H. Marx.
141 Experimental Colon Bacillus Infection of the Urinary Organs. O. Hess.
142 *Modification of Digestive Processes after Operations on the Stomach. (Aenderungen in den Verdauungsprozessen nach Gastroduodenostomie und Gastrojejunostomie, and nach totaler Magenexstirpation.) W. F. Dagnew.

132. **Action of Pathologic Kidney on Its Mate.**—Isobe reports experimental research which apparently demonstrates that the products generated in the pathologic kidney are absorbed and exert a toxic action on the epithelium of the sound kidney when these products are eliminated through it; they may also injure the parenchyma. In case the products are not very toxic, the sound kidney responds merely with a tendency to hypertrophy. The research reported seems to indicate that the toxic action is felt by the kidney alone. The practical conclusion is that the pathologic kidney should be got rid of as soon as possible before the other kidney has been extensively damaged.

133. **Chronic Pancreatitis.**—Schmidt has encountered a number of cases of chronic pancreatitis, and he insists that uncomplicated chronic pancreatitis belongs to the internist, not to the surgeon, and that it responds well to treatment as a rule. He does not apply the alleged specific tests for pancreas functioning but relies on clinical observation and microscopic examination of the stools on his special test-diet. With merely functional disturbance the pancreas seems to suffer

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more than with an organic lesion, the interference with digestion being more striking and severer than with a tumor, for instance, which arrests the functioning in a portion of the organ but leaves the rest practically intact for a long time. He describes in detail eight typical cases of chronic pancreatitis. In three the bulky and greasy stools suggested an affection of the pancreas interfering with the digestion of fat and meat and also to a slight extent with that of starch. The disturbance in pancreatic secretion was evidently responsible for the variable subjective phenomena from abnormal digestion and for the intermittent catarrh of the bowels manifested in diarrhea, colics, passage of mucus and occasional transiently high temperature. The large amounts of meat fibers which escaped digestion provided a good culture medium for putrefaction-inducing microbes and the undigested starch for fermentation microbes. Bile production and stomach functioning were apparently normal.

The affection began in one case with an attack of ileus, accompanied by brief jaundice, followed by a left pleural effusion, the whole probably an acute pancreatitis which subsided into a chronic phase. Another patient had had a severe hematemesis six years before and the stomach was drawn toward the right and was rather large, suggesting an ulcer in the pylorus or duodenum as the primary cause for the disturbances. In a fourth case a gall-stone affection became complicated with a transient disturbance in pancreas functioning, all symptoms subsiding under treatment of the gall-stone trouble. In case of achylia, the lack of the normal stimulus from the gastric juice leads in time to insufficiency of pancreatic digestion, and the functional trouble may finally entail chronic inflammation of the pancreas. Chronic disturbance in the stomach secretion must thus be reckoned with as a possible factor in chronic pancreatitis. Obstruction of the outlet of the pancreas may lead to isolated pancreatitis with a fatal outcome. In a case of this kind reported the digestive disturbances were remarkably slight but there was intense glucosuria. Still another factor in chronic pancreatitis is a primary cirrhosis of the organ. This generally entails rapid cachexia. In one such case a man of 57 had pain in the stomach region; the acidity of the stomach contents was high and there was a tendency to diarrhea. The stomach was not tender or enlarged but quantities of undigested meat fibers and fat were found in the stools and the patient grew rapidly very thin and feeble. There was no glucosuria at any time. Necropsy showed extensive cirrhosis of the pancreas with a few small abscesses; no stones anywhere. The whole trouble was restricted to the pancreas and ran its course within a year.

Treatment should be based on the findings in the stools on the test-diet, restricting the fat (no butter, cream, very little milk), and the most minute division of all the meat and egg eaten. Schmidt has found gelatin dishes extremely useful as gelatin makes but slight demands on pancreas functioning and gives very little occasion for putrefaction processes. Arrow-root, sago, fine bread, rice and mashed potato should be the main reliance; vegetables should be allowed only with control of their digestion by examination of the stools. In case of atony of the stomach, lavage in the morning may be indicated. A course of mineral waters is not needed for the pancreatitis but may be indicated in case of concomitant gall-stone trouble. It might be advisable in some cases, he adds, to supplement the above measures with pancreas preparations; they may help in some cases but they fail in others, according to his experience.

137. **The Blood Count in Appendicitis.**—Schultze regards the quantitative and qualitative blood count as extremely important, and he applies it at once as a routine measure in all cases of appendicitis. He depends on it in large degree for the prognosis, especially with progressive peritonitis. Here it affords exceptional insight into the case.

142. **The Digestion after Operations on the Stomach.**—Dagaew gives a detailed description of numerous experiments on dogs after gastroduodenostomy, gastrojejunostomy or total gastrectomy to determine the conditions in regard to digestion of various articles of food. The tables show that the animals utilized their food thereafter surprisingly well.

Monatsschrift für Geburtshilfe und Gynäkologie

April, XXXVII, No. 4, pp. 417-552

143 *Uterine Hemorrhage. (Zur Lehre von der Aetologie und Therapie der Uterusblutungen.) L. Hirsch.
144 Pubiotomy. (Zur Frage von der Hebosteotomie.) L. A. Kriwsky.
145 *Development of Prematurely Born Children. (Weiterentwicklung frühgeborener Kinder, mit. bes. Berücksichtigung späterer nervöser psychischer und intellektueller Störungen.) M. Wall.
146 Hemophilia in Women. A. Czyborra.
147 Roentgentherapy or Vaporization in Treatment of Hemorrhagic Uterus Disease. H. Fuchs.
148 Repeated Tubal Pregnancy. (Wiederholte Tubargravidität.) M. Hirsch and E. Puppel.

143. **Etiology and Treatment of Uterine Hemorrhage.**—Hirsch believes that menorrhagia and metrorrhagia are caused not by variations in ovarian secretion but by decreased contractibility of the uterine musculature. He has therefore treated 200 patients by injection of ergot directly into the uterine wall. Excellent results were obtained, particularly in chronic metritis and preclimacteric hemorrhage. Naturally the treatment is contra-indicated in acute inflammatory conditions and new growths of the uterus and adnexa.

145. **The After-Life of Premature Infants.**—Wall's conclusions are based on a study of 691 cases. He finds that contrary to a frequently accepted belief, premature birth is not responsible for Little's disease, idiocy or imbecility. Prematurely-born infants develop, as a rule, into normal adults, though in their early years there is apt to be some retardation, manifested by delay in learning to walk and speak, and persistence of enuresis and night terrors. The severity and persistence of this retarded development depend on the size of the infant at birth, and the extent to which it has suffered after birth from poor care and lack of hygiene.

Monatsschrift für Kinderheilkunde, Berlin

XI, No. 12, pp. 621-682

149 *Inexpensive Modification of Protein Milk. (Die kasein-fettangereicherte Kuhmilch als Dauer- und Heilnahrung.) P. Heim and M. K. John.
150 Anaphylaxis to Milk. H. Kleinschmidt.

149. **A New Milk Modification.**—Heim and John have used what they call casein-fat milk for the feeding of both healthy and dyspeptic infants. In 145 cases of dyspepsia it gave excellent results. They fed forty-five healthy infants with it from the age of two weeks to seven or eight months. All were evidently in as good condition as if they had been fed with mother's milk. The casein-fat milk is prepared by adding two teaspoonfuls of extract of rennet to two-thirds of a liter of cow's milk and heating it in hot water to 40 C. The coagulated milk is stirred up and poured in a fine sieve and the whey allowed to drain off. Two-thirds of a liter of hot water is added to the coagulated part and it is rubbed through the sieve. This process is repeated until the fluid has the consistency of milk and runs through the sieve without rubbing. It is then heated to not over 88 C. being stirred continuously to avoid coagulation of the casein. After heating, one-third liter of cow's milk, which has been heated, and 30 gm. Soxhlet's sugar is added and it is kept in the refrigerator until wanted. It has the advantage over albumin milk or protein milk of being cheaper, and it can be prepared at home by mothers of ordinary intelligence.

Münchener medizinische Wochenschrift

April 22, LX, No. 16, pp. 849-904

151 *Increased Irritability of the Neuromuscular System in Pregnancy. (Ueber galvanische Nervenmuskelerregbarkeit in der Schwangerschaft und über Schwangerschaftstetanie.) L. Seitz.
152 *Constitutional Inferiority of the Connective Tissue. (Die allgemeine Asthenie des Bindegewebes in ihren Beziehungen zur Wundheilung und Narbenbildung.) K. Vogel.
153 *Extensive Exposure of Inoperable Gastric Cancer to Permit Roentgentherapy. (Freilegung inoperabler Magenkarzinome zur Röntgenbestrahlung und die damit erzielten Erfolge.) H. Finsterer.
154 Serodiagnostic Reactions Simulated by Means of Chemicals. (Ueber Erzeugung von Komplementbindungsreaktionen durch Zusatz von chemischen Substanzen zum normalen Serum.) E. Rominger.

155 Brow Presentations. (Behandlung der Vorderhauptslagen.) Lehle.

156 *Necessity for Removing Tonsil in Treating Tuberculous Lymph-Nodes in the Neck. (Halslymphdrüsentuberkulose in ihrer Beziehung zu den Tonsillen und zur Lunge.) E. Trautmann.

157 *Malignant Pemphigus Cured by Intravenous Injection of 20 c.c. Fresh Human Serum. G. Practorius.

158 *Technic for Determining Blood Pressure. (Neue Apparate zur Messung des arteriellen Blutdrucks beim Menschen.) H. v. Recklinghausen. Commenced in No. 15.

159 Etiology of Beriberi. C. Eijkman.

160 No Scientific Basis for Phrenicotomy. (Die Beeinflussung von Lungenerkrankungen durch künstliche Lähmung des Zwerchfells. Phrenikotomie.) D. Hellin.

151. **Increased Electric Irritability in Pregnancy.**—Seitz states that tests of forty healthy young women and of seventy pregnant women showed increased irritability to galvanic stimulation during the last months of pregnancy. During the puerperium the excitability gradually subsided. None of the women showed signs indicating tetany or a latent tendency thereto but the electric findings indicated a subtetany. Among the women there were four with eclampsia and two of these showed this tendency while in the others the electric tests indicated normal conditions. Seitz remarks that pregnancy tetany is distinguished by unusual severity; about 6 per cent. of the women die. The respiratory muscles suffer more in pregnancy than under other conditions. In treatment he has found the best results from keeping the women in bed. Thyroid treatment had but a dubious effect and trials of parathyroid extract are still under way. He ascribes to a latent tendency to tetany the peculiar attacks of asthma with nausea and the tremor which occur in pregnant women. (He makes no mention of calcium as a possible treatment of the tetany. —See Abstr. 76 above.)

152. **Constitutional Inferiority of the Connective Tissue.**—Vogel has been studying for nine years the connection between various affections such as flat-foot, varices, pendulous belly, ptosis, etc., and tardy healing of wounds and tardy consolidation of fractures. His experiences show that these all have a common basis in a constitutional inferiority of the connective tissue. In sixty-two cases summarized this connection was unmistakable. For example, a man of 27 with fracture of the femur showed no signs of callus after four months. He had flat-foot, inguinal and femoral hernia, gastroptosis and scoliosis. A young woman with varices, hernia and flat-foot burned the calf of one leg and the wound did not heal over for seven months. A child of 9 had a rather small wound of the calf which showed no signs of healing over for several months and finally required transplantation of flaps; the child was pale and had a tendency to hernia and his parents had hernias, varices, hemorrhoids, or curvature of the spine. Vogel urges that greater attention should be paid to this constitutional inferiority of the connective tissue, or tissue asthenia, as it will be of great aid in prognosis and in estimating the advantages of operative measures. Patients belonging in this category should be kept in bed longer after an operation than others, and the operative wounds should be reenforced more carefully. A suture material should be selected that is not absorbed too soon, and all the factors to ensure smooth healing of the wounds and good cicatrization should be heeded with special care.

153. **Roentgenotherapy of Inoperable Cancers.**—Finsterer applies an extremely radical technic for exposing an inoperable cancer in the stomach to the Roentgen rays and reports excellent results. After the median laparotomy under local anesthesia, he makes a gastro-enterostomy as far to the left as possible and then cuts both rectus muscles across, two or three fingerbreadths above the umbilicus, carrying the incision down to the costal arch and thus making a wide opening in the abdomen which leaves the stomach, its omentum and the gastrocolic ligament amply exposed. He packs around them with gauze to induce formation of adhesions. Five or six days are generally enough for this. No tendency to peritonitis or prolapse developed in the seven cases in which he has applied this technic. Under local anesthesia resection may be possible in conditions which forbid general anesthesia. Roentgenotherapy may be usefully applied after resection with or without extensive exposure for the purpose. In inoperable cases this radical exposure should be done as a routine measure in place of an exploratory laparotomy, and the gastro-enterostomy should follow, made as far toward the fundus as possible, regardless of the permeability of the pylorus. If this technic is not applicable, jejunostomy should be done. This method of radical exposure permits successful treatment of even immovable carcinoma in the posterior wall of the stomach. To prevent a fistula, anything liable to injure the serosa of the stomach, suture or exploratory excision should be scrupulously avoided and the dosage of the rays should be mild, not over one or two H units. The Roentgen exposures should be kept up a long time, and possibly they may be effectually supplemented by chemical treatment.

156. **Tuberculous Lymph-Nodes in the Neck Infected from the Tonsil.**—Trautmann is convinced that the cervical lymph-nodes are infected through the mediation of the tonsils in many cases, and insists that the tonsil on that side at least should be removed as the first step in treatment. In one of the cases he reports the tonsils were apparently sound but tuberculous changes were found in them resembling those in the tuberculous lymph-nodes in the neck on the same side.

157. **Serotherapy of Pemphigus.**—In the case described a woman of 48 had suffered for two years from severe and constantly recurring pemphigus rebellious to all treatment, including salvarsan. She was emaciated to a skeleton, with fever and occasional delirium and diarrhea and had been unable to leave her room for two months when he made an intravenous injection of 20 c.c. of blood taken directly from the woman's husband. No attempt was made to defibrinate or centrifugate as the little operation had to be done in her home. No by-effects were observed, but the curative action was amazing. By the third day the manifestations of the disease began to subside and by the end of the week recovery was complete and she started on a journey the third week. There has not been the slightest sign of recurrence of symptoms during the nearly eight months to date. The skin over the entire body seems normal and the patient has gained 18 pounds in weight. No local measures were applied with the serotherapy.

158. **Improved Apparatus for Blood-Pressure Measurement.**—Recklinghausen gives an illustrated description of his improved cuff, tonometer and bulb contrivance which is much simpler, cheaper and takes up less room than his old apparatus with its pump. He describes in particular the device with which he ensures uniform action from the rubber bulb, transforming the jerky action of the bulb into an even force.

Petersburger medizinische Zeitschrift

April 28, XXXVIII, No. 8, pp. 93-102

161 Treatment of Ankylosis of the Elbow. (Ueber Mobilisierung des ankylotischen Ellbogengelenks durch freie Periosttransplantation.) W. Greiffenhagen.

162 Physical Laws Regulating the Circulation. (Der Wasserumlauf im Blutgefässsystem und in den Geweben des Organismus.) B. Nikolaew.

163 *Biologic Importance of Phosphorus for Growing Organism and its Action on the Intracellular Ferments. M. S. Maslow.

163. **Biologic Importance of Phosphorus.**—Maslow reports extensive research on dogs carried out at the Institute for Experimental Medicine at St. Petersburg. A number of litters of puppies were fed with phosphorus in various forms or with food intentionally selected for its lack of phosphorus especially albumin-milk. The action of ferments was supervised with special interest and finally the phosphorus content of the various organs was determined. The results of the research sustain the assumption of the importance of phosphorus for normal ferment production and action. Also that animals are incapable of synthesizing organic phosphorus compounds. The practical conclusions are that phosphates should not be given for therapeutic purposes. Lecithin, on the other hand, answers the requirements for administration of phosphorus and activation of the ferments. Maslow declares that lecithin decisively established its usefulness as a readily assimilated form of phosphorus. When given with the food the organs showed a marked increase in their content of organic phosphorus and a slight increase in the inorganic.

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Virchows Archiv, Berlin

April, CCXII, No. 1, pp. 1-160

164 Research on Development of the Skull. II. (Das fötale Wachstum.) R. Thoma.
165 Defective Development of the Chest. (Zur formalen und kausalen Genese der Brustmuskel- und Brustdrüsen-Defekte.) E. Walther.
166 Case of Fibroxanthosarcoma. (Ueber eine Fibroxanthosarkom mit eigenartiger Ausbreitung und mit Vena cava sup. sinistra.) A. Dietrich.
167 *Solubility of Gall-Stones. (Die Lösungsmöglichkeit der Gallensteine.) v. Hansemann.
168 Experimental Alimentary Atherosclerosis. W. Steinbiss

167. **Solubility of Gall-Stones.**—Hansemann has apparently proved by experiments *in vitro* and by transferring gall-stones from human beings to dogs that gall-stones are soluble in normal bile, particularly stones composed largely of cholesterin. If, therefore, by treatment the catarrhal conditions of the bile passages can be cured, inflammatory products removed and the bile restored to its normal condition, the stones will be dissolved spontaneously. Treatment should be undertaken with this aim in view, rather than with a view to direct action on the gall-stones. The article is accompanied by a number of illustrations showing sets of gall-stones in various stages of being dissolved, the research reported establishing once more that normal bile under normal conditions does not permit concrements to develop and will dissolve in time those already formed. The peculiar shape of the gall-stones found at the operation in many cases is due to their being partly dissolved.

Zeitschrift für Kinderheilkunde, Berlin

VI, No. 4, pp. 253-374. Last indexed April 26, p. 1337

169 Standards for Growth of Children and their State of Nourishment. (Eine einfache Tafel zur Bestimmung von Wachstum und Ernährungszustand bei Kindern.) C. v. Pirquet.
170 Tuberculous Meningitis; History, Symptoms, Prognosis. Literature. H. Koch.

Nos. 5-6, pp. 375-518

171 Metabolism of Atrophic Infants. (Stoffwechsel atrophischer Säuglinge.) A. Niemann.
172 Electrocardiagrams of Weakly Infants. C. T. Noeggerath.
173 Physiology of Lactation. K. Bamberg.
174 Rosenbach's Tuberculin in Treatment of Tuberculosis in Children. C. Beck.
175 *Sugar in Infant Feeding. (Zur Frage des Zuckerzusatzes bei der unnatürlichen Ernährung.) B. Bendix.
176 Continuous Intubation with Stenosis of the Larynx of Diphtheric Origin. Brückner.
177 *Reaction in Children to Human and Bovine Tuberculin. C. Cattaneo.

175. **The Best Sugar in Artificial Feeding.**—Bendix believes that beet sugar is to be preferred to milk sugar in preparing cow's milk for infant feeding. Its very much lower price is worth considering in poor families, but, in addition to that, infants actually increase more in weight on beet sugar. There is less intestinal fermentation and the stools are better. He gives weight curves for thirteen cases supporting his views.

177. **The Reaction of Children to Human and Bovine Tuberculosis.**—Cattaneo reviews the discussions as to the identity of human and bovine tuberculosis and gives his own results in a series of forty-five cases of tuberculosis in children treated with both human and bovine strains of tubercle bacilli. He found that cases of bone, bowel and gland tuberculosis reacted much more frequently and readily to the bovine tuberculin, while, on the contrary, a larger percentage of pulmonary cases reacted to the human form.

Zeitschrift für klinische Medizin, Berlin

LXXVII, Nos. 3-4, pp. 145-354. Last indexed April 5, 1913, p. 1116

178 *Why Blood Annuls Toxic Action of Atropin. (Zum Mechanismus der Atropinentgiftung durch Blut und klinische Beobachtungen über das Vorkommen der Entgiftung.) A. Döblin and P. Fleischmann.
179 The Mechanism of the Polyuria in Diabetes Insipidus. (Zur Frage des Konzentriervermögens der Niere beim Diabetes insipidus.) Forschbach.
180 Experimental Research on Nature and Cause of Recurrences. F. Rosenthal.
181 Active Expiration as Sign of Nephritis. H. K. Barrenscheen.
182 *Spasmophilia in Adults. G. Peritz.
183 *Metastatic Tumors in the Skin. (Einige metastatische Hauttumoren.) S. Laache.
184 Types of Respiration in Health and in Acidosis. (Ueber Atmung des gesunden und säurevergifteten Menschen.) Röver.
185 *Study of Kidney Functioning in Nephritis. (Funktionelle Untersuchungen bei den Nephritiden des Menschen.) W. Wolffheim.
186 Necropsy Blood Findings in Diphtheria. (Beiträge zur Diphtherie mit bes. Berücksichtigung der path.-anat. Organ- und bakt. Leichenblutbefunde in ihrem Verhalten zum klinischen Bilde.) W. H. Leede.
187 Elimination of Amino-Acids in Health and Disease. (Studien über Aminosäurenausscheidung bei Gesunden und Kranken.) M. Damask.

178. **Neutralizing Toxic Action of Blood in Respect to Atropin.**—The research reported seems to indicate that the substance in rabbit serum which annuls the toxic action of atropin is of the nature of a ferment. The reaction was positive in 30 per cent. of ten patients with exophthalmic goiter and in 15 per cent. of twenty with ordinary goiter; it was never found in the twenty persons with apparently normal thyroids.

180. **Nature of Relapses.**—Rosenthal thinks that much light will be thrown on mutation of pathogenic germs and the problems of heredity of acquired properties by research on the nature and cause of relapses and recurrences. It seems evident that under the influence of the antibodies generated in an acute infection the causal germs undergo some modifying action, so that they start up new phenomena of a different nature: the so-called relapses or recurrences.

182. **Spasmophilia in Adults.**—Peritz applies this term to a constitutional anomaly consisting of an abnormally ready response on the part of the nervous and muscular system, particularly the autonomic nervous system, to stimuli affecting them. This constitutional anomaly is characterized by increased irritability to anodal electric stimuli (Pirquet); by the Chvostek symptom; by exaggerated mechanical excitability (long lumps in the muscles and grooves at the base of the thumb); hypertonicity of the arteries (cold, livid hands and feet); the blood-pressure normal or below; the Aschner symptom (change in the pulse on pressure of the eyeball), and a change in the blood picture, increase of the large mononuclears (monocytes, Pappenheim's leukoblasts). This constitutional anomaly seems to be the basis on which various affections develop which have in common an increased irritability of the neuromuscular system. This includes cases of epilepsy, tic, myalgias, vasomotor neuroses, migraine, asthma, "dread neuroses" and especially what has been called vagotony.

183. **Metastatic Cancer of the Skin.**—Laache reports seven cases of metastatic tumors in the skin, sarcoma in three and carcinoma in four cases. In the latter group the primary focus was in the kidney and adrenal, intestine or breast. Death speedily followed the metastasis.

185. **The Kidney Functioning in Nephritis.**—Wolffheim reports extensive functional tests applied in twenty-eight cases of nephritis. In all the actually inflammatory kidney affections the elimination of salt and of water was apparently normal. The elimination of salt was found defective in the oliguric stage of vascular nephritis and in tubular nephritis. The elimination of nitrogen was also intact in the cases of acute nephritis. Retention of salt does not always entail edema, but in all cases with dropsy there is disturbance in the elimination of sodium chlorid, either from retention or from the flushing out of retained deposits of salt. Application of heat to the deeper tissues was applied in three cases with retention of salt, and under the influence of the thermopenetration the elimination of both salt and water improved. These findings encourage further trials in this line. The results of the research on the whole indicate that it is possible by functional examination to differentiate the various forms of nephritis. The tests were made with merely keeping the patients on a given milk or milk and rice diet, with or without given amounts of salt and water. The aim was to determine the conditions in regard to elimination of salt and nitrogen on a given uniform diet and when a test amount was given in excess. No attempt was made to apply the potassium iodid and lactose tests for fear of possible injury from the latter and because the inter-

pretation of the potassium-iodid test findings has not yet been perfected.

Zentralblatt für Chirurgie, Leipsic

April 26, XL, No. 17, pp. 633-680

188 Fracture of Sternum. W v Brunn.
189 *Faradic Current in Treatment of Intermittent Limping. (Anwendung des faradischen Stromes beim intermittierenden Hinken.) W. Kühn.
190 Osteoplastic Amputation of the Foot. (Bildung tragfähiger Stümpfe bei der tiefen Amputation des Unterschenkels durch osteoplastische Verwendung der Knöchel.) W. Levy.

189. **Electric Treatment of Intermittent Limping.**—Kühn calls attention to the benefit attained in the case of a man of 68 suffering from intermittent claudication and given treatment with the four-cell electric bath. Each leg was placed in a deep vessel of water at 35 C. and the faradic current was brought into the water. The femoral pulse at first was imperceptible but after twelve sittings it became palpable again. A point near the tibia was still quite painful but this was cured by direct application of the faradic electrode. The patient had long been unable to walk, but now, six years later, he can take comparatively long walks without disturbance.

Zentralblatt für Gynäkologie, Leipsic

April 26, XXXVII, No. 17, pp. 601-640

191 Streptococci in Puerperal Vaginal Secretion. (Bedeutung des Streptokokkenbefundes im Vaginalsekret Kreissender.) E. Sachs.
192 *Cancer in Stump of Uterus. (Ueber die im Uterusstumpfe nach der supravaginalen Amputation sich entwickelnden malignen Geschwülste.) P. N. Hansen.
193 *Biologic Test for Pregnancy. (Ergibt das Dialysierverfahren von Abderhalden eine spezifische Schwangerschaftsreaktion?) Behne.
194 Danger from Moisture Collecting Under Gloves. (Der Handschuhsaft.) H. Hellendall and W. Fromme.

192. **Cancer in the Stump of the Uterus.**—Hansen has become convinced by the four cases he reports that supravaginal amputation of the uterus for myoma should be totally abandoned. One patient was a woman of 43 and an epithelioma developed in the stump six years after the amputation for multiple fibromyomas. There has been no sign of recurrence during the two years since the cancerous stump was removed. In the second case the cancer was a chondro-myxosarcoma with metastases in the lungs and knee. It developed less than a year after the supravaginal amputation for myoma. In the third case there was only a brief interval after the amputation before new symptoms developed and a tumor in the stump proved to be of the same nature—a cystic fibroma—as that removed at the first operation. The bladder was injured—as also at the first operation—and the patient died soon after. No trace of anything malignant could be found at necropsy, yet it is possible that some sarcomatous part of the tumor might have been overlooked.

193. **Biologic Test for Pregnancy.**—Behne has examined 100 patients but leaves out of consideration the first forty in which the technic may have been defective. He found the dialysis test almost constantly positive in normal pregnant women but in a few instances it was negative even with certain pregnancy. He also found it positive in a number of non-pregnant women with an inflammatory process in the genital organs or elsewhere. A positive reaction was also obtained in several males but only in those with pulmonary tuberculosis or liver disease.

Zentralblatt für innere Medizin, Leipsic

April 26, XXXIV, No. 17, pp. 417-440

195 Nitrobenzol Poisoning. O. Roth.
196 *Acid-Fast Bacilli in the Blood Stream. (Vorkommen säurefester Stäbchen im Blute.) W. Lang.

196. **Tubercle Bacilli in the Blood-Stream.**—Lang found acid-fast bacilli in the blood of thirteen tuberculous patients and in seven of ten non-tuberculous. Necropsy of three in the latter group failed to disclose any macroscopic tuberculous changes in one; in the second there were a few calcified lymph-nodes at the hilus, and in the third old calcified foci in the apices.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 15, XXXIV, No. 45, pp. 471-478

197 Serodiagnosis of Pneumococcus Infection. (La precipito diagnosi nelle affezioni da pneumococco del Fränckel.) A. Facchin.

April 22, No. 48 pp. 503-510

198 Treatment of Deep Abscess in the Neck. (Studio clinico delle suppurazioni profonde del collo.) F. F. Pisano.

April 24, No. 49, pp. 511-518

199 Acute Articular Rheumatism Consecutive to Pseudomembranous Pharyngitis. G. Baglioni.

April 27, No. 50, pp. 519-534

200 *Causes of Pain in Epigastrium. G. Fargnoli.

200. **Causes of Pain in the Epigastrium.**—Fargnoli reviews the various causes which may induce severe pain in the stomach region, calling attention in particular to Pott's disease and Addison's disease as well as tabes, which must be excluded in differentiation. He also reports a case in which there were no symptoms except a progressively increasing pain in the stomach region, by the end of two weeks radiating to the kidneys and shoulder. The patient was a previously healthy young woman and the pain did not seem to be dependent on eating but became more intense about 5 p. m. After a month, fever and symptoms developed explaining the trouble as Malta fever with secondary staphylococcus liver trouble with bile pigments in the urine, the syndrome simulating finally gall-stone trouble. The serum agglutinated the Malta micrococcus at 1 to 1600 and the staphylococcus at 1 to 800. The pains in the epigastrium were so intense that the patient had to be kept under the influence of morphin most of the time but she gradually recovered and is now entirely well, with no signs of recurrence during the nine months since.

Policlinico, Rome

April 20, XX, No. 16, pp. 549-584

201 Wounds from Modern Firearms. (Le ferite prodotte dalle moderne armi da fuoco portatili da guerra nei vari tessuti ed organi.) P. Imbriaco.

April, Surgical Section, No. 4, pp. 145-192

202 Experimental Mechanical Influencing of Hypophysis Functioning. (Sulla compressione artificiale dell'ipofisi.) A. Austoni.
203 Experimental Research on the Internal Secretion of the Testicles. (Ulteriori ricerche sperimentali sulla secrezione interna testicolare.) V Barnabo.

Riforma Medica, Naples

April 12, XXIX, No. 15, pp. 393-420

204 Pancreatic Ferments in Stools as Aid in Diagnosis of Pancreas Disease. P. F. Zuccola.
205 The Meconium from Medicolegal Standpoint. (Del meconio rispetto agli indizii che ne sono desumibili nelle necroscopie.) G. G. Perrando. Commenced in No. 14.

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206 Tabetic Knee Affection Cured by Resection. (Artropatia tabetica del ginocchio. Resezione. Guarigione.) R. Falcone.
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